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DIRT SWIRL

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“S” = SMT
(Outward bent leads)
“T” = Tape & Seal
“ST” =SMT w/ Tape
“SA” =SMT
(Inward bent leads)
“SAT” =SMT
(Inward bent leads w/ tape)

GD Series

Dip Switches “End to End Stackable” Through Hole and Surface Mount

FEATURES:

- Conventional gold wiping contact system
- Available in PC and surface mount configurations
- Traditional tape seal standard
- 95% Minimum solder coverage (90/10 tin lead)
- Withstands wave soldering temperature of 245°C for 3-5 seconds
- Heat deflection temperature of 260°C for surface mount compatibility
- End stackable (GDS version)
- Auto-insertable (GDS and GDB version)
- Vacuum pick and place compatible (GDS, GDB and GDH)
- Half pitch .050” terminal spacing (GDH version)
- Available in optional tape & reel packaging

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature..... -30°C to +85°C
 Storage Temperature..... -45°C to +100°C
 Solder Heat Resistance See page M6-7

MATERIAL SPECIFICATIONS:

Moving Contact Gold over nickel over copper alloy
 Fixed Contact..... Gold over copper alloy
 Base Material PPS UL94V-0
 Cover Material PPS UL94V-0
 Actuator Material High temperature polyester/polyamide
 Terminal Tin lead plated over nickel over copper alloy

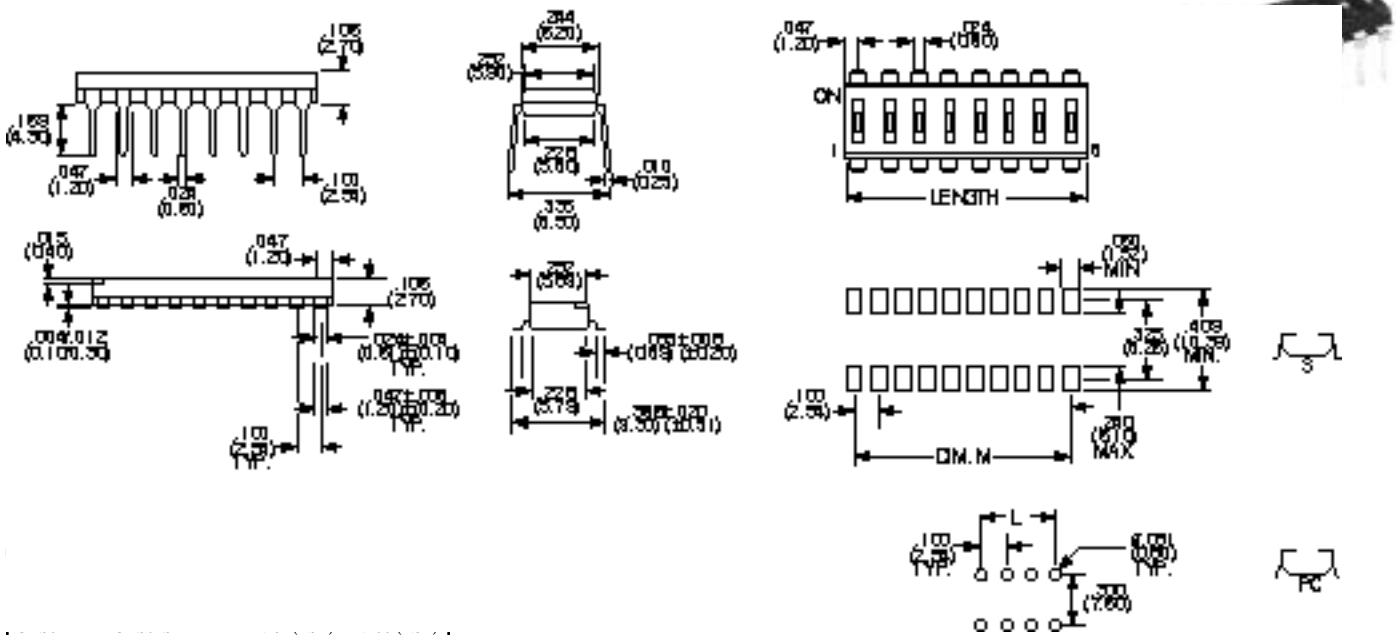
TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating 0.4 VA 25ma @ 24 VDC
 Initial Contact Resistance..... 100 Milliohms max.
 Insulation Resistance 100 Megohms min. @ 250 VDC
 Dielectric Strength 300 VAC
 Life Expectancy 1,000 Cycles
 Operating Force 60-600 Grams

End to End Stackable!

GDS

Low Profile Slide Actuator



GDS04	GDS04S	4	.394(10.02)	.300(7.62)
GDS06	GDS06S	6	.594(15.10)	.500(12.7)
GDS08	GDS08S	8	.794(20.18)	.700(17.78)
GDS10	GDS10S	10	.994(25.26)	.900(22.86)

See pages M2-M4 for application specific indexing.

Need more technical information?

Consult your local Augat sales office

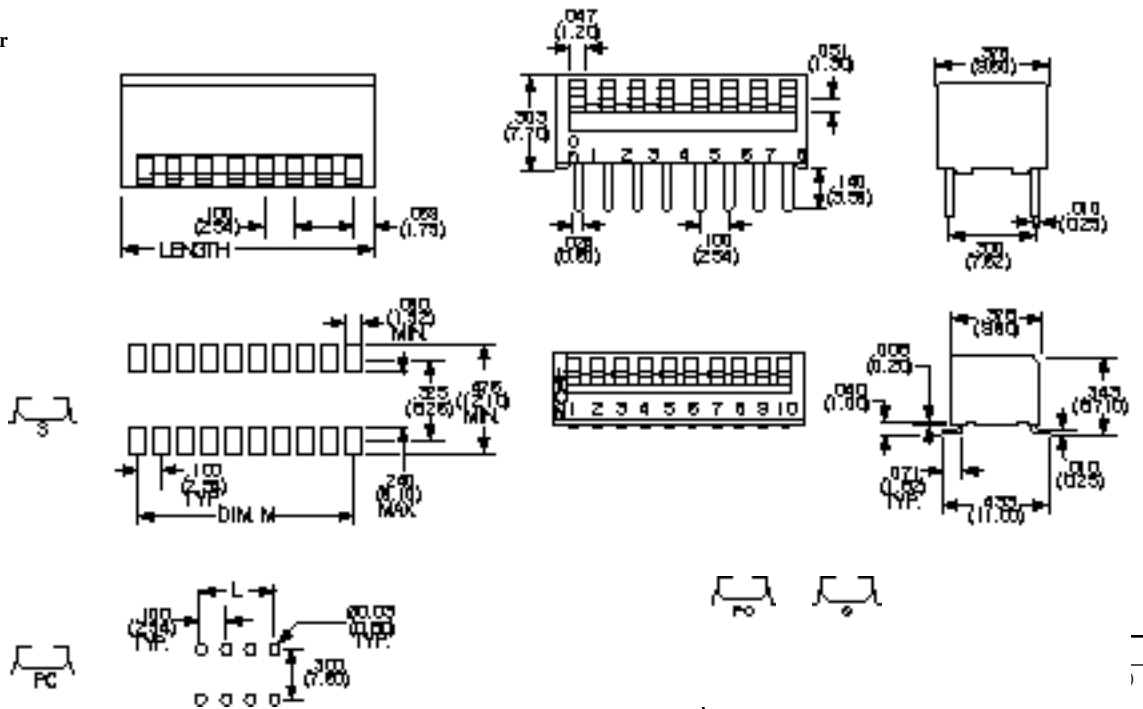
AUGAT Inc.
 452 John L. Dietsch Blvd.
 Andover Falls, MA 02762, USA

GD Series *Dip Switches "Piano and Rocker" Actuator* Through hole and Surface Mount

GDP Classic Profile Piano Actuator



GDP08

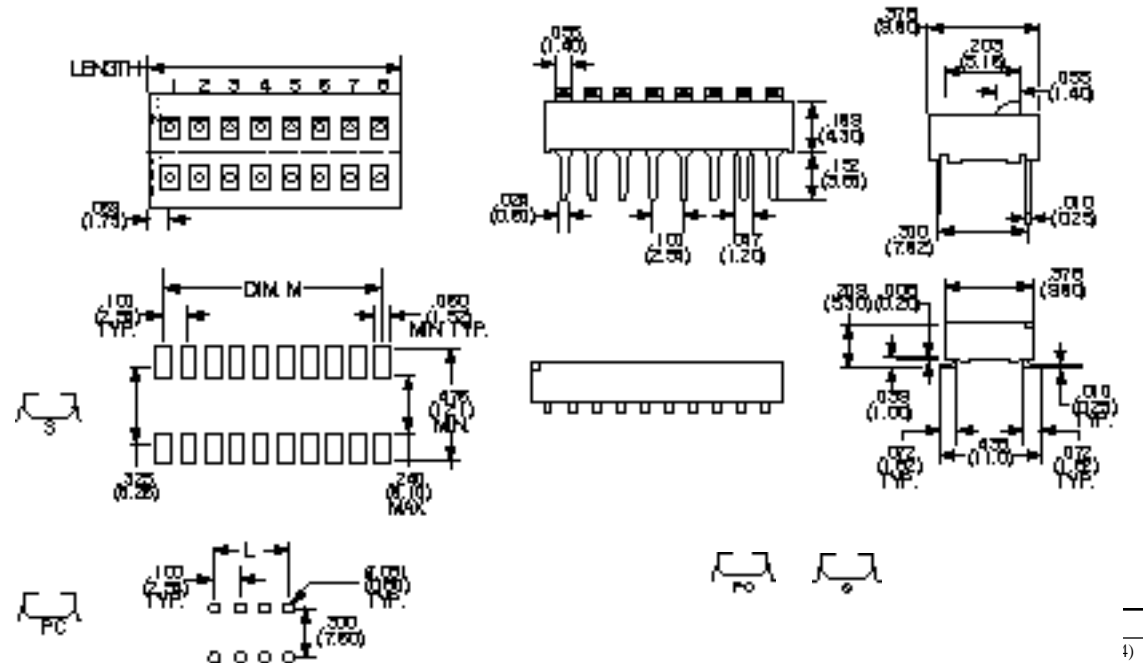


GDP06	GDP06S	6	.638(16.20)	.500(12.7)
GDP08	GDP08S	8	.838(22.28)	.700(17.78)
GDP10	GDP10S	10	1.038(26.36)	.900(22.86)

GDB Flush Rocker Actuator



GDB08



GDB04	GDB04S	4	.438(11.12)	.300(7.62)
GDB06	GDB06S	6	.638(16.20)	.500(12.7)
GDB08	GDB08S	8	.838(21.28)	.700(17.78)
GDB10	GDB10S	10	1.038(26.36)	.900(22.86)

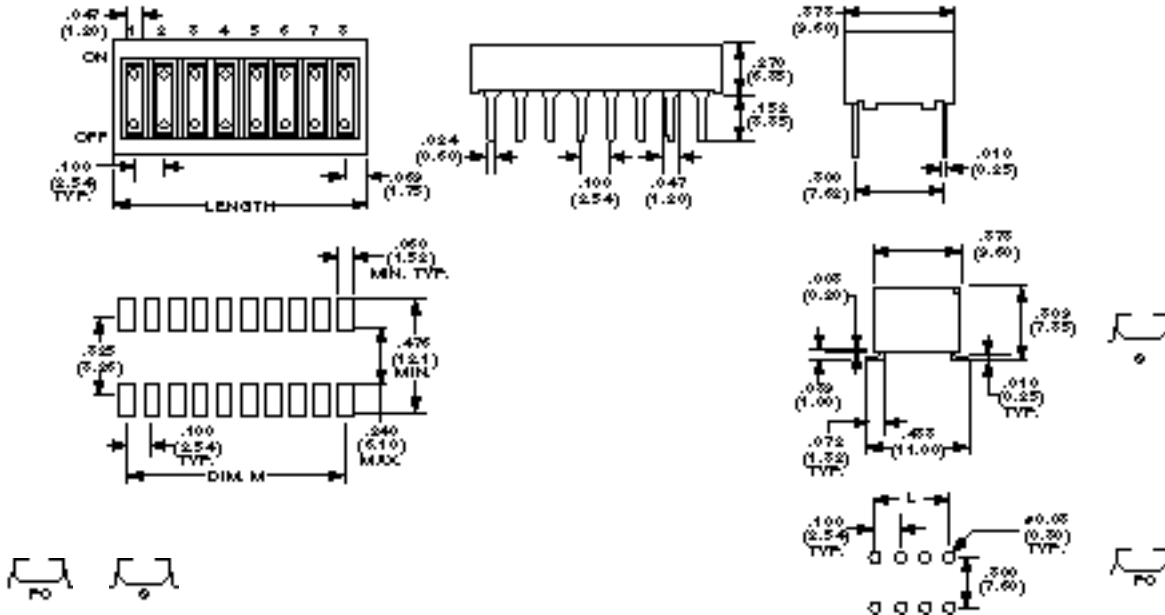
Dip Switches "Recessed Rocker" Surface Mount "Half Pitch" .050" Low Profile

GD Series

GDR
Classic Profile
Recessed Rocker Actuator



GDR08

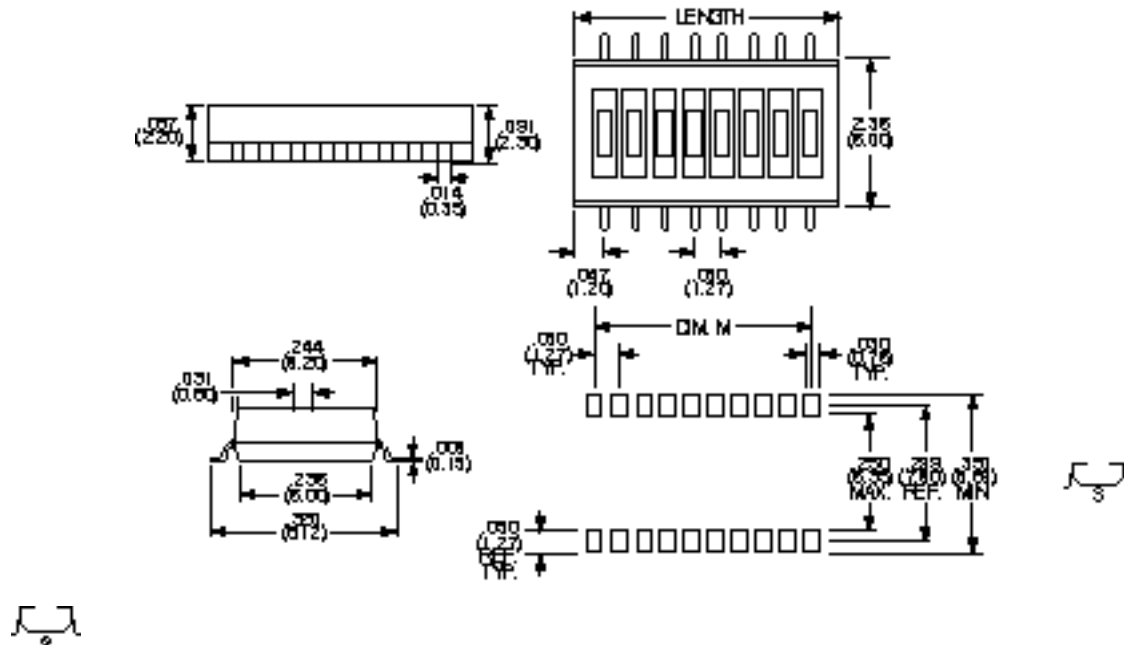


PC Model	S Model	Poles	Length	Dim. M
GDR02	GDR02S	2	.238(6.04)	.100(2.54)
GDR04	GDR04S	4	.438(11.12)	.300(7.62)
GDR06	GDR06S	6	.638(16.20)	.500(12.70)
GDR08	GDR08S	8	.838(21.28)	.700(17.78)
GDR10	GDR10S	10	1.038(26.36)	.900(22.86)

GDH
If Pitch .050" Terminal Spacing



GDH08S



S Model	Poles	Length	Dim. M
GDH02S	2	.144(3.66)	.050(1.27)
GDH04S	4	.244(6.20)	.150(3.81)
GDH06S	6	.344(8.75)	.250(6.35)
GDH08S	8	.444(11.29)	.350(8.89)
GDH10S	10	.544(13.82)	.450(11.43)

Need more technical information?
Consult your local Augat sales office

AUGAT Inc.
452 John L. Dietsch Blvd.
Attleboro Falls, MA 02762, USA

MGDH *Surface Mount Dip Switch "Low Profile .067" High "*

MATERIAL SPECIFICATIONS:

Contacts.....Copper alloy, gold plate over nickel
 Case MaterialPPS, UL 94V-0
 Actuator Material.....High temperature polyester, 94V-0
 Moving ContactCopper alloy, gold plate over nickel
 Fixed Contact.....Copper alloy, gold plate over nickel
 TerminalsCopper alloy, tin lead plate over nickel

TYPICAL PERFORMANCE CHARACTERISTICS:

Contact RatingNon-switching: 100 Milliamps @ 50 VDC
Switching: 25 Milliamps @ 24 VDC
 Initial Contact Resistance.....100 Milliohms max.
 Insulation Resistance100 Megohms min. @ 100 VDC
 Dielectric Strength300 VAC, 1 minute
 Actuation Force......60 - 6000 Grams max.
 Life Expectancy1,000 Cycles min.

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature.....-30°C to +85°C (-22°F to +185°F)
 Storage Temperature.....-45°C to +100°C (-49°F to +212°F)

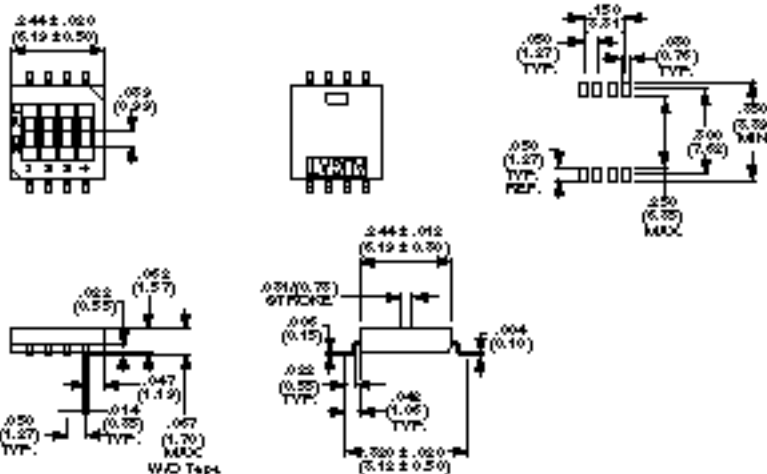


MGDH

Half Pitch .050" Terminal Spacing, .067" High



MGDH04



Part Number
MGDH04

Auto-Insertable and Surface Mountable Dip Switch "Extended or Flush Actuator" Thru Hole & Surface Mount

AD Series

FEATURES:

- Available in PC and surface mount termination versions.
- High pressure wiping contact allows aqueous or solvent cleaning without tape seal.
- Auto-insertable using insertion equipment from Amistar, Dynapert, Panaset, Northeastern Tool and Universal.*
*Flush Actuator versions.
- Tape Seal version for vacuum pick-n-place
- Unique design can withstand vapor phase reflow or wave soldering conditions.
- Gas tight contacts

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature.....-30°C to + 85°
 Storage Temperature.....-45°C to + 100°C
 Solder Heat Resistance.....245°C ± 5°C with switch in "off" position
 30 seconds when mounted on a .060" thick PCB
 per MIL-STD202, Method 210
 CleaningAqueous solution or solvent

MATERIAL SPECIFICATIONS:

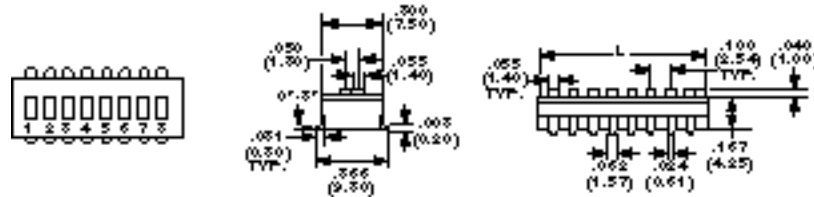
Moving ContactGold flashed copper alloy
 BasePolyester/PPS
 CoverPolyester/PPS UL94V-0
 Actuator Material.....Polyester/PolyamideUL94V-0
 Fixed Contact & Terminal.....AD Series: solder coated brass

TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating0.4 VA @ 20 VDC max.
 Initial Contact Resistance.....50 Milliohms max.
 Insulation Resistance1,000 Megohms min. @ 100 VDC
 Dielectric Strength500 VAC
 Operating ForceLess than 1,000 grams
 Actuator Travel.....AD/R Series 1.30mm/.050" piano style 25°
 Life Expectancy1,000 Cycles



ADE

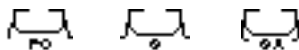


"S" Termination Shown



ADE08

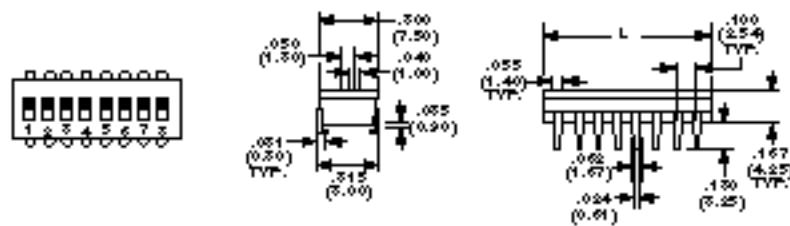
Extended Actuator



Extended Actuator	"S" Term.	"SA" Term.	No. of Positions	Actuator Style
ADE02	ADE02S	ADE02SA	2	Slide
ADE03	ADE03S	ADE03SA	3	Slide
ADE04	ADE04S	ADE04SA	4	Slide
ADE05	ADE05S	ADE05SA	5	Slide
ADE06	ADE06S	ADE06SA	6	Slide
ADE07	ADE07S	ADE07SA	7	Slide
ADE08	ADE08S	ADE08SA	8	Slide
ADE09	ADE09S	ADE09SA	9	Slide
ADE10	ADE10S	ADE10SA	10	Slide
ADE12	ADE12S	ADE12SA	12	Slide

See Page A8 for PC Pad Layout.

ADF

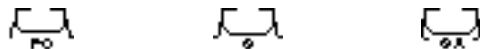


"SA" Termination Shown



ADF08S

Flush Actuator



PC Term	"PC" Term. w/Tape.	"S" Term.	"S" Term. w/Tape Seal	"SA" Term.	"SA" Term. w/Tape Seal	No. of Positions	Actuator Style
ADF02	ADF02T	ADF02S	ADF02ST	ADF02SA	ADF02SAT	2	Slide
ADF03	ADF03T	ADF03S	ADF03ST	ADF03SA	ADF03SAT	3	Slide
ADF04	ADF04T	ADF04S	ADF04ST	ADF04SA	ADF04SAT	4	Slide
ADF05	ADF05T	ADF05S	ADF05ST	ADF05SA	ADF05SAT	5	Slide
ADF06	ADF06T	ADF06S	ADF06ST	ADF06SA	ADF06SAT	6	Slide
ADF07	ADF07T	ADF07S	ADF07ST	ADF07SA	ADF07SAT	7	Slide
ADF08	ADF08T	ADF08S	ADF08ST	ADF08SA	ADF08SAT	8	Slide
ADF09	ADF09T	ADF09S	ADF09ST	ADF09SA	ADF09SAT	9	Slide
ADF10	ADF10T	ADF10S	ADF10ST	ADF10SA	ADF10SAT	10	Slide

See Page A8 for PC Pad Layout and "L" Dimensions.

Need more technical information?

Consult your local Augat sales office

AUGAT Inc.
 452 John L. Dietsch Blvd.
 Andover Falls, MA 02762, USA

AD Series *Piano Style Dip Switches* Auto-Insertable and Surface Mountable

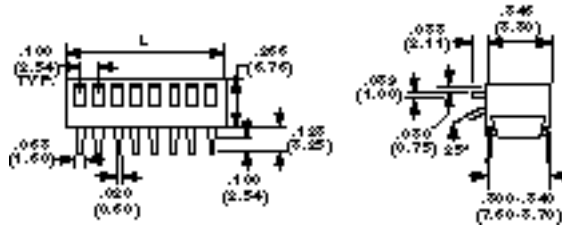
ADP



ADP04S

Piano Actuator

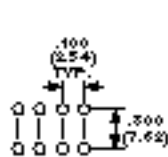
"PC" Termination Shown



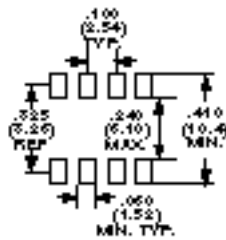
Poles	Bodylength 'L'	Poles	Bodylength 'L'
2	0.278" (7.06mm)	7	0.778" (19.76mm)
3	0.378" (9.60mm)	8	0.878" (22.30mm)
4	0.478" (12.14mm)	9	0.978" (24.84mm)
5	0.578" (14.68mm)	10	1.078" (27.38mm)
6	0.678" (17.22mm)		

Lever Down "On"	Lever Up "On"	Lever Down "On"	Lever Up "On"	Lever Down "On"	Lever Up "On"	No. of Positions	Actuator Style
ADP02	ADPA02	ADP02S	ADPA02S	ADP02SA	ADPA02SA	2	Piano
ADP04	ADPA04	ADP04S	ADPA04S	ADP04SA	ADPA04SA	4	Piano
ADP05	ADPA05	ADP05S	ADPA05S	ADP05SA	ADPA05SA	5	Piano
ADP06	ADPA06	ADP06S	ADPA06S	ADP06SA	ADPA06SA	6	Piano
ADP07	ADPA07	ADP07S	ADPA07S	ADP07SA	ADPA07SA	7	Piano
ADP08	ADPA08	ADP08S	ADPA08S	ADP08SA	ADPA08SA	8	Piano
ADP09	ADPA09	ADP09S	ADPA09S	ADP09SA	ADPA09SA	9	Piano
ADP10	ADPA10	ADP10S	ADPA10S	ADP10SA	ADPA10SA	10	Piano

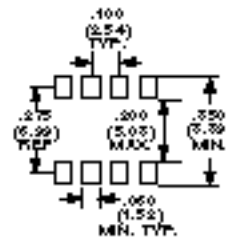
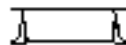
TERMINATION OPTIONS



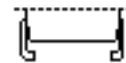
PC Termination



S Termination



SA Termination



Low Profile/Hybrid Dip Switch AR Series

AUTO-INSERTABLE* DIP SWITCH WITH INTEGRAL RESISTORS

SEE PAGE A7 FOR PRODUCT SPECIFICATIONS

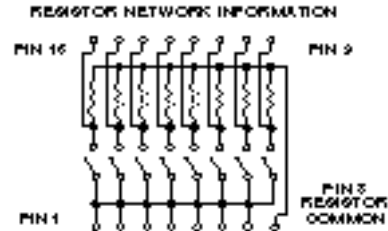
* Flush actuator versions (are auto-insertable only)

FEATURES:

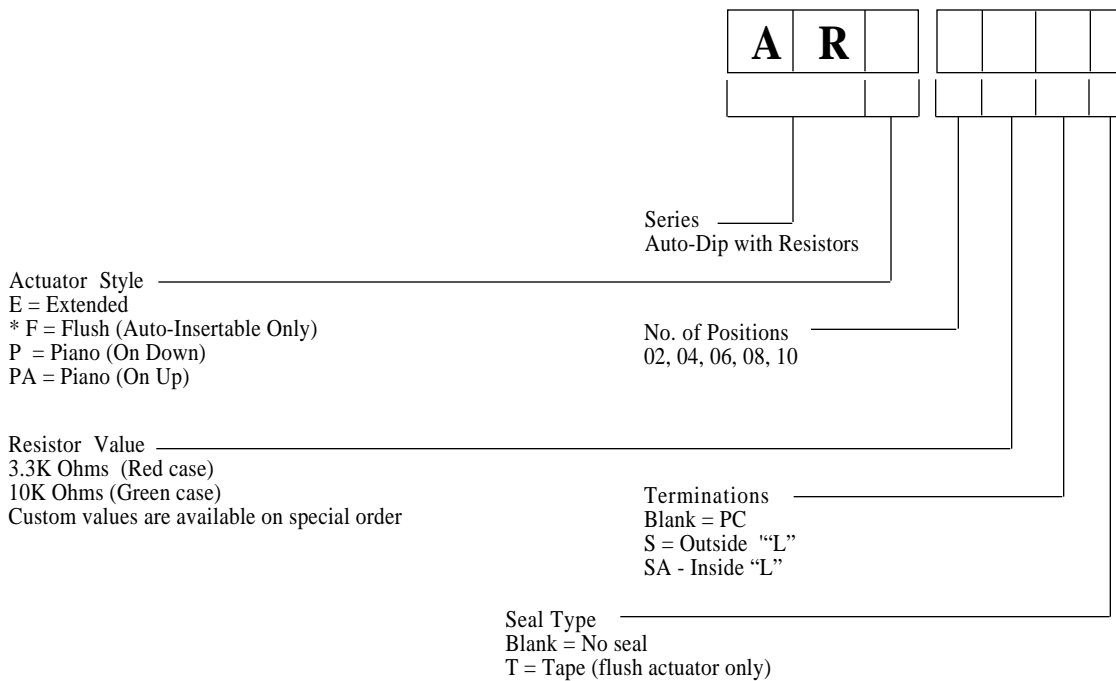
All the features of the AD SERIES - PLUS

- Thick film pull-up resistors molded into the base of the switch.
- Replaces discrete resistor network plus DIP Switch with one component.
- Available with 3.3K ohms or 10K ohms resistors.
- Ceramic substrate allows wave soldering temperatures of 245°C for up to 30 seconds per MIL-STD 202, Method 210
- Custom resistor values available.

Rated Pwr.	Resistance	Tolerance	Max. Voltage
125 mW	3.3K Ohms (red)	±5% at 85°C	24V
125 mW	10K Ohms (green)	±5% at 85°C	24V



HOW TO ORDER



Example: ARF 06 10KST = Auto-Dip
Flush actuator
06 positions
10K ohms resistors
Outside "L" terminations & tape seal

Need more technical information?
Consult your local Augat sales office

AUGAT Inc.
452 John L. Dietsch Blvd.
Attleboro Falls, MA 02762, USA

ATT Series *Digital Dip Attenuators*

FEATURES:

- Thick film resistor network molded into base switch.
- Replaces discrete resistor and thumbwheel type attenuators with one component.
- Auto-insertable using Panasert insertion equipment.

SEE PAGE A7 FOR PRODUCT SPECIFICATION

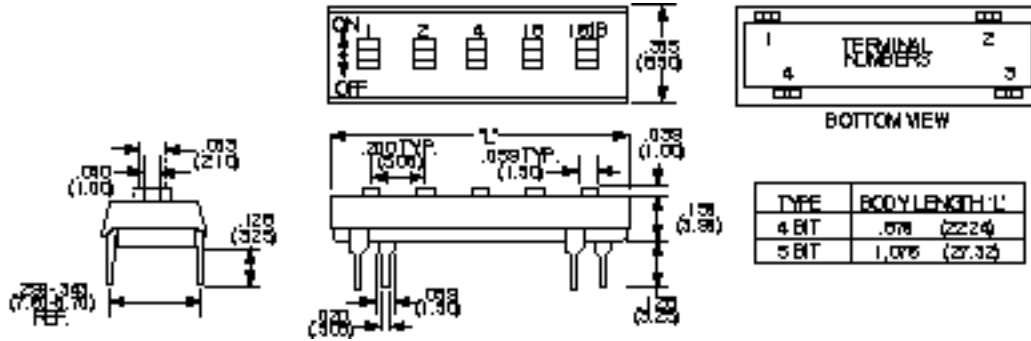
- Available with 4 or 5 bit and 50, 75, 150, 300 or 600 Ohms unbalanced T network.

Note: Switches to be soldered in the neutral position, as received.

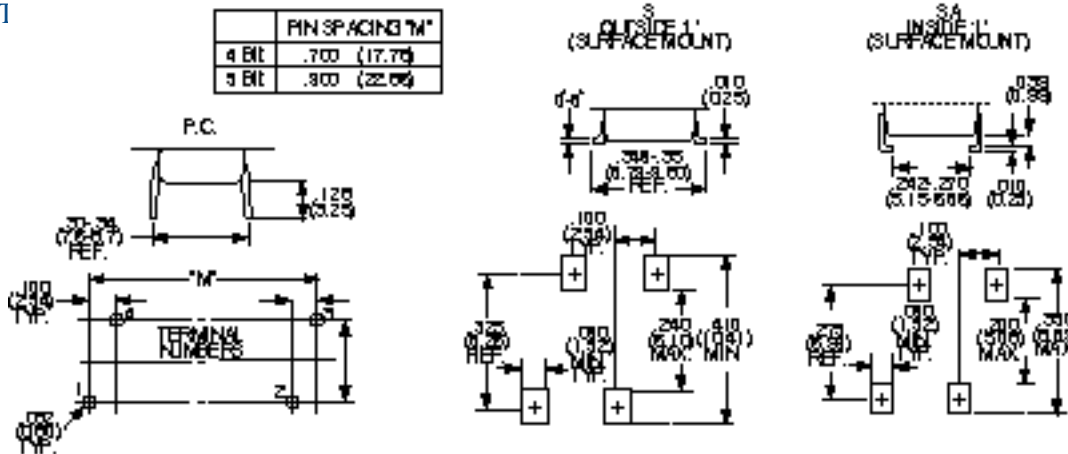
ATT



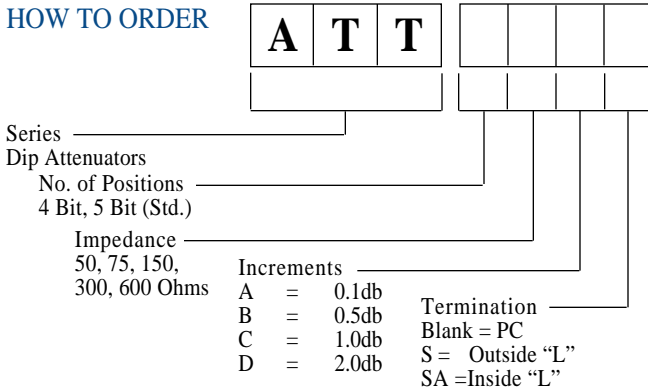
ATT5150C



TERMINATION OPT

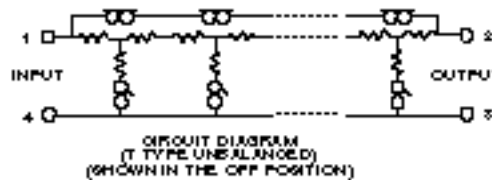


HOW TO ORDER



Case	Imped	Freq.	Rts. Input Power	db Tol. Range
Red	50	30MHZ	50mW	.1-4db ± .025db
Orange	75	5MHZ		.5-2db ± .05db
Green	150	1MHZ		3-9db ± .10db
Blue	300	500KHZ		10-15db ± .15db
Black	600	200KHZ		16-24db ± .20 db
				25-30db ± .35 db
				31 db ± .50db

Attenuator Network Information



Example: ATT 4600A = Dip Attenuator
 4 Bit
 600 Ohms impedance
 1 db increments (customer is able to introduce from 1 db up to 15 db into a circuit)
 PC terminations

Vertical and Right Angle Low Profile Sip Switches S Series

FEATURES:

- End-to-end stackable in .100" center (SSV/SLV) versions
- High pressure wiping contacts allows aqueous or solvent cleaning
- Gas tight contacts (280,000 PSI)
- Ceramic substrate allows wave soldering temperature of 245° for up to 10 seconds (SLV/SLH Versions)
- 2 SIP switches take up less board space than 1 DIP switch

ENVIRONMENTAL SPECIFICATIONS:

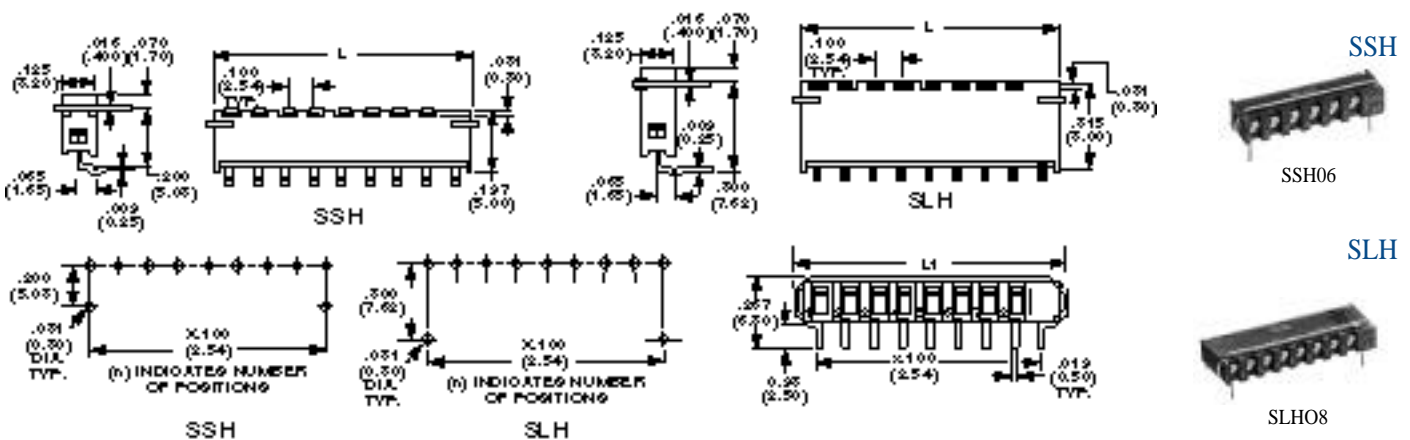
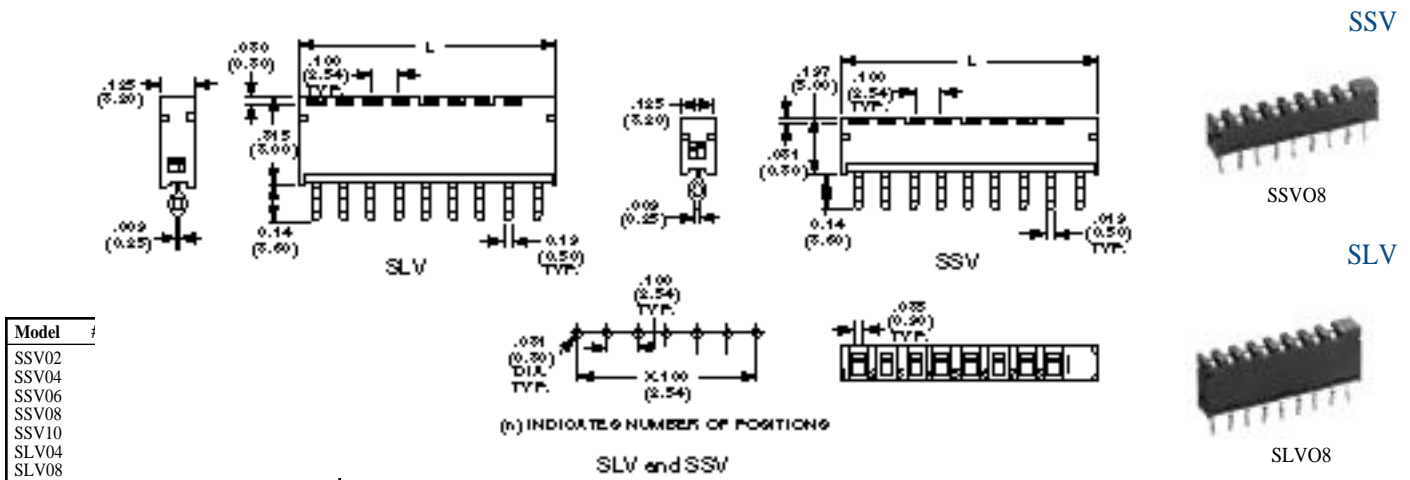
Operating Temperature.....-30°C to +85°C
 Storage Temperature.....-45°C to +100°C
 Solder Heat ResistanceWave soldering temperatures of 245°C ± 5°C with switch in off position 30 seconds when mounting on a .060" thick PCB per MIL-STD 202, Method 210

MATERIAL SPECIFICATIONS:

BasePPS 94V-0/Encapsulated Ceramic (SLV/SLH)
 CoverPBT 94V-0
 Contacts.....Gold flashed Beryllium copper
 Actuator Material.....Polyamide
 Terminals/Fixed Contacts.....Solder coated copper alloy
 Terminal Seal.....Insert molded
 Process Seal.....Gas tight contacts

TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating0.4 VA @ 20 VDC max.
 Initial Contact Resistance.....50 Milliohms max.
 Insulation Resistance100 Megohms min. @ 100 VDC
 Dielectric Strength500 VAC
 Actuation Force.....800 Grams max.
 Actuator Travel50°
 Life Expectancy1,000 Cycles



Model	# Of Positions	"L" Dimension	"L ₁ " Dimension
SSH02	2	.298	.338
SSH04	4	.498	.538
SSH06	6	.699	.738
SSH08	8	.898	.938
SSH10	10	1.098	1.138
SLH04	4	.498	.538
SLH08	8	.898	.938

Need more technical information?
 Consult your local Augat sales office

AUGAT Inc.
 452 John L. Dietsch Blvd.
 Attleboro Falls, MA 02762, USA

DPU Series *Piano Style DIP Switches with "Extended Actuators"*

FEATURES:

- Available with extended actuators
- "ON" in up position

TYPICAL PERFORMANCE CHARACTERISTICS:

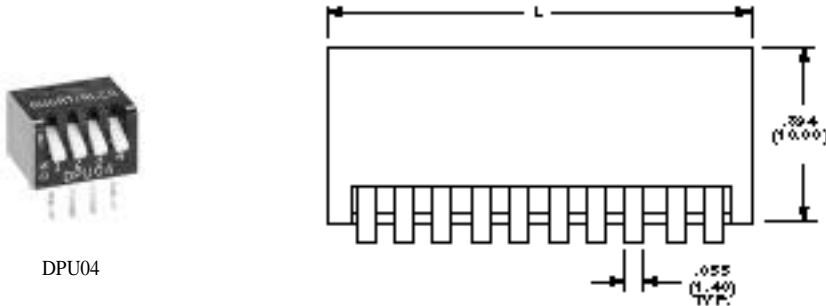
Contact Rating0.4 VA @ 20 VDC max.
 Initial Contact Resistance.....50 Milliohms max.
 Insulation Resistance100 Megohms min. @ 100 VDC
 Dielectric Strength500 VDC @ sea level
 Actuation Force.....400 Grams max.
 Actuator Travel30°
 Life Expectancy1,000 Cycles

MATERIAL SPECIFICATIONS:

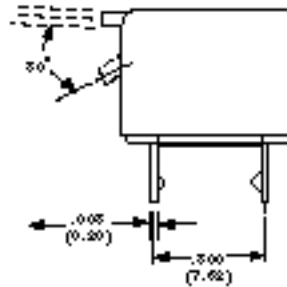
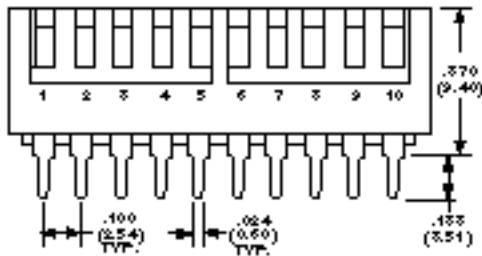
Contacts.....Gold flash over nickel over copper alloy
 Actuator.....Polyamide UL94V-0
 CasePPS UL94V-0 black
 CoverPPS UL94V-0 black
 TerminalsTin lead over copper alloy

ENVIRONMENTAL SPECIFICATIONS:

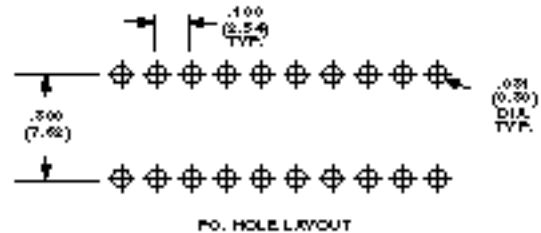
Operating Temperature.....-20°C to +85°C (-40°F to +185°F)
 Storage Temperature.....-55°C to +85°C (-67°F to +185°F)
 Solder Heat Resistance245° ± 5°C for two seconds when mounted on a .062" thick PCB with switch in "OFF" position per MIL-STD 202, Method 210



DPU04



HOW TO ORDER



PCB HOLE LAYOUT

Actuator Styles
 U = Extended

Poles	Body Length "L"
4	.494 (12.54)
6	.694 (17.62)
8	.894 (22.70)
10	1.094 (27.78)

Piano Style DIP Switches DPU/SD, DPU/DS Series

TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating0.4 VA @ 20 VDC max.
 Initial Contact Resistance.....50 Milliohms max.
 Insulation Resistance100 Megohms min. @ 100 VDC
 Dielectric Strength500 VDC @ sea level
 Operation Force400 Grams max.
 Actuator Travel30°
 Life Expectancy1,000 Cycles

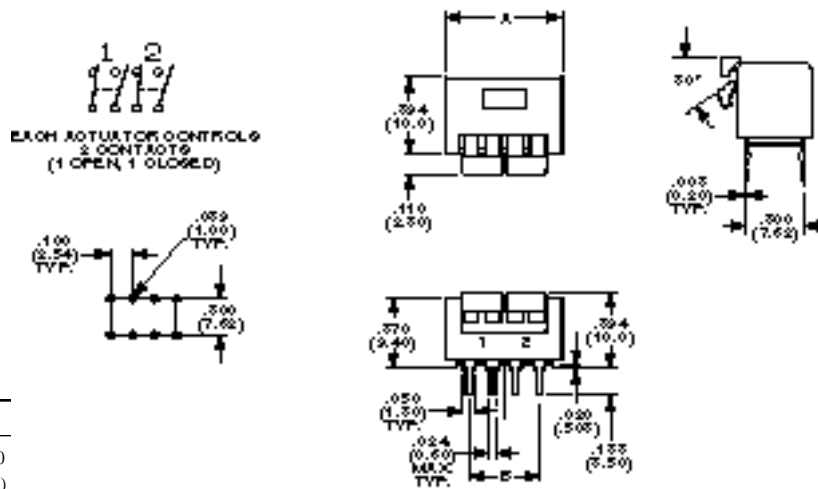
MATERIAL SPECIFICATIONS:

Contacts.....Gold flash over nickel over copper alloy
 Actuator.....Polyamide white-ivory color UL 94V-0
 BasePPS UL94 V-0 black
 HousingPPS UL94 V-0 black
 TerminalsTin lead over copper alloy

ENVIRONMENTAL SPECIFICATIONS:

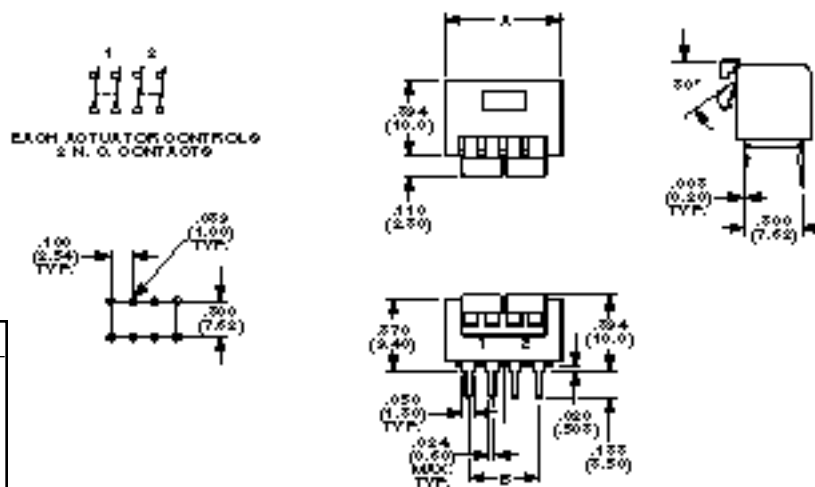
Operating Temperature.....-20°C to +85°C (-4F to +185°F)
 Storage Temperature.....-55°C to +85°C (-67°F to +185°F)
 Solder Heat Resistance260±5°C For two seconds when mounted on a .062" thick PCB with switch in "OFF" position per MIL-STD 202, Method 210

DPU/SD



Part No.	Dim. A	Dim. B
DPU02SD	.494 (12,54)	.300 ± .010 (7,62±0,25)
DPU04SD	.894 (22,7)	.700 ± .010 (17,78±0,25)

DPU/DS



Part No.	Dim. A	Dim. B
DPU02DS	.494 (12,54)	.300 ± .010 (7,62±0,25)
DPU03DS	.694 (17,62)	.500±.010 (12,7±0,25)
DPU04DS	.894 (22,7)	.700 ± .010 (17,78±0,25)
DPU05DS	1.094 (27,78)	.900 ± .010 (22,86±0,25)

Need more technical information?
 Consult your local Augat sales office

AUGAT Inc.
 452 John L. Dietsch Blvd.
 Attleboro Falls, MA 02762, USA

DTS Series *DIP Switch*

MATERIAL SPECIFICATIONS:

Contacts.....Gold flash over nickel
 Case MaterialGlass filled thermoplastic
 Terminals/Fixed Contacts.....Gold flash over nickel
 Terminal Seal.....Epoxy
 Process Seal.....Tape

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature.....-10°C to +60°C (-14°F to +140°F)
 Storage Temperature.....-20°C to +85°C (-4°F to +185°F)
 Solder Heat ResistanceHand Soldering: 350°C for 30 seconds
 Wave: 260°C ± 5° for 10 seconds

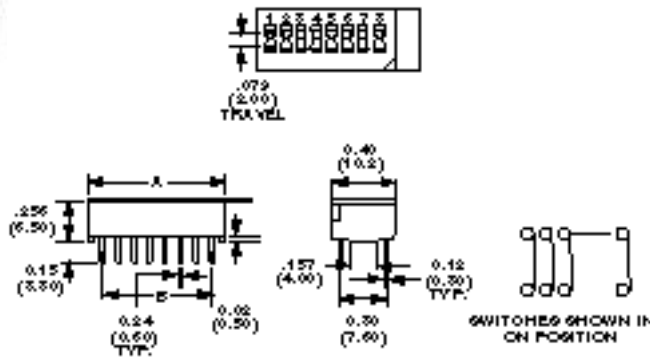
TYPICAL PERFORMANCE CHARACTERISTICS:

Contact RatingNon-switching: 100mA @ 50 VDC
 Switching: 100mA @ 5 VDC typ.,
 25mA @ 24 VDC max.
 Initial Contact Resistance.....100 Milliohms min.
 Insulation Resistance100 Megohms min.
 Dielectric Strength500 VDC @ sea level
 Actuation Force.....700 Grams max.
 Plunger/Actuator Travel079/2mm
 Life Expectancy2,000 Cycles

DTS



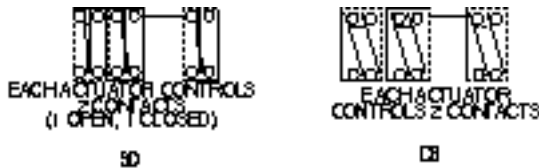
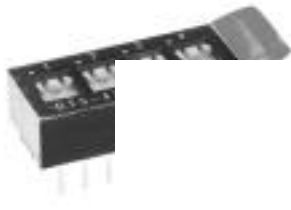
DTS8



Model	A	B
DTS1	5.0/197	---
DTS2	7.20/283	2.54/100
DTS3	9.8/386	5.08/200
DTS4	12.3/484	7.62/300
DTS5	14.9/587	10.16/400
DTS6	17.4/685	12.7/500
DTS7	20.0/787	15.24/600
DTS8	22.6/890	17.78/700
DTS9	25.1/988	20.32/800
DTS10	27.5/1.083	22.86/900

Model	Type	Markings	Actuator Style
DTS1	1PST	1	Slide
DTS2	2PST	1 through 2	Slide
DTS3	3PST	1 through 3	Slide
DTS4	4PST	1 through 4	Slide
DTS5	5PST	1 through 5	Slide
DTS6	6PST	1 through 6	Slide
DTS7	7PST	1 through 7	Slide
DTS8	8PST	1 through 8	Slide
DTS9	9PST	1 through 9	Slide
DTS10	10PST	1 through 10	Slide

DTS



Model	A	B
DTS1DS/SD	7.20/283	2.54/100
DTS2DS/SD	12.3/484	7.62/300
DTS3DS/SD	17.4/685	12.7/500
DTS4DS/SD	22.6/890	17.78/700
DTS5DS/SD	27.5/1.083	22.86/900

Model	Type	Markings	Actuator Style
DTS1DS	DPST	1	Slide
DTS2DS	DPST	1 through 2	Slide
DTS3DS	DPST	1 through 3	Slide
DTS4DS	DPST	1 through 4	Slide
DTS5DS	DPST	1 through 5	Slide
DTS1SD	DPST/N.O.-N.C.	1	Slide
DTS2SD	DPST/N.O.-N.C.	1 through 2	Slide
DTS3SD	DPST/N.O.-N.C.	1 through 3	Slide
DTS4SD	DPST/N.O.-N.C.	1 through 4	Slide
DTS5SD	DPST/N.O.-N.C.	1 through 5	Slide

8 Position Trinary DIP Switch - Security Applications TRI Series

MATERIAL SPECIFICATIONS:

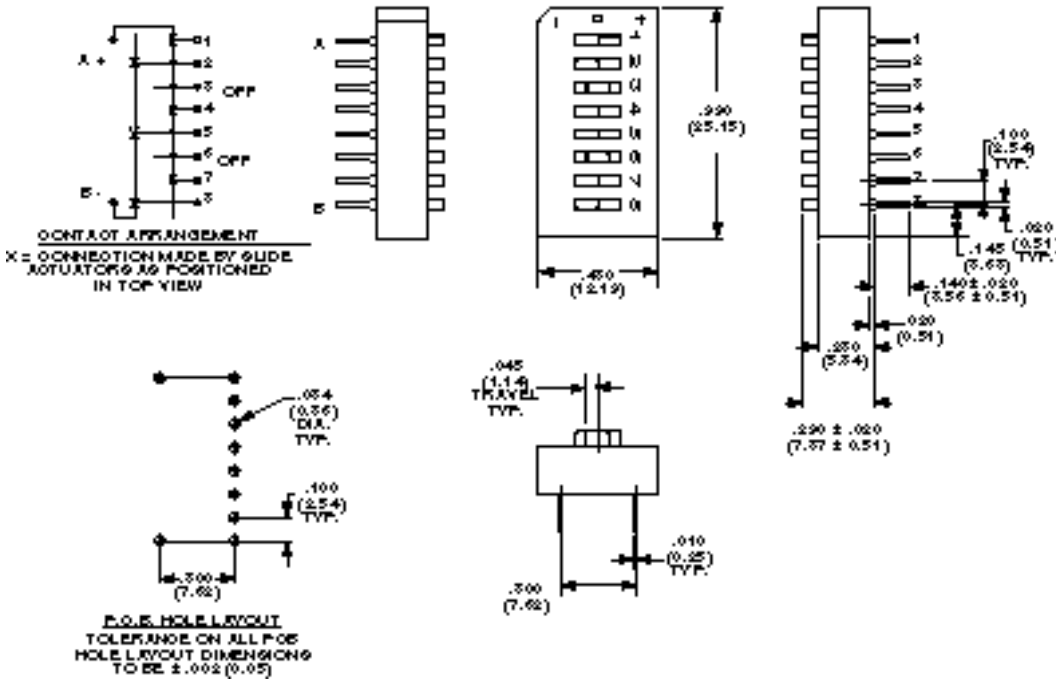
Spring Contacts & Terminals... Silver plated copper alloy
 Case & Base Material..... Glass filled polyester 94V-0 rated; color gray
 Slide Actuator Material Polyester, 94V-0 rated; color white

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature.....-40°C to +88°C (-40°F to +190°F)
 Humidity40°C and 95% RH for 96 hours

TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating100 mA Max. @ 5 VDC (Resistive load)
 25 mA Max. @ 24 VDC (Resistive load)
 Initial Contact Resistance.....100 Milliohms max.
 Insulation Resistance10⁵ Megohms min.
 Dielectric Strength500 VAC min.
 Actuation Force.....1,200 Grams max.
 Actuation Travel045" Max.
 Life Expectancy100 Cycles



TRI08

Part Number
TRI08

TRI

TS Series *DIP Shunt*

FEATURES:

- Auto-insertable IC package
- No special actuation tool required
- High reliability
- Program either before or after assembly to PC board
- Ideal for security non-user reprogrammable application
- Cost effective

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature.....-55°C to +150°C (-67°F to +302°F)
 Static Capacitance.....5 pF

MATERIAL SPECIFICATIONS:

Case MaterialPolyester (UL94V-0)
 TerminalTin lead over nickel silver alloy

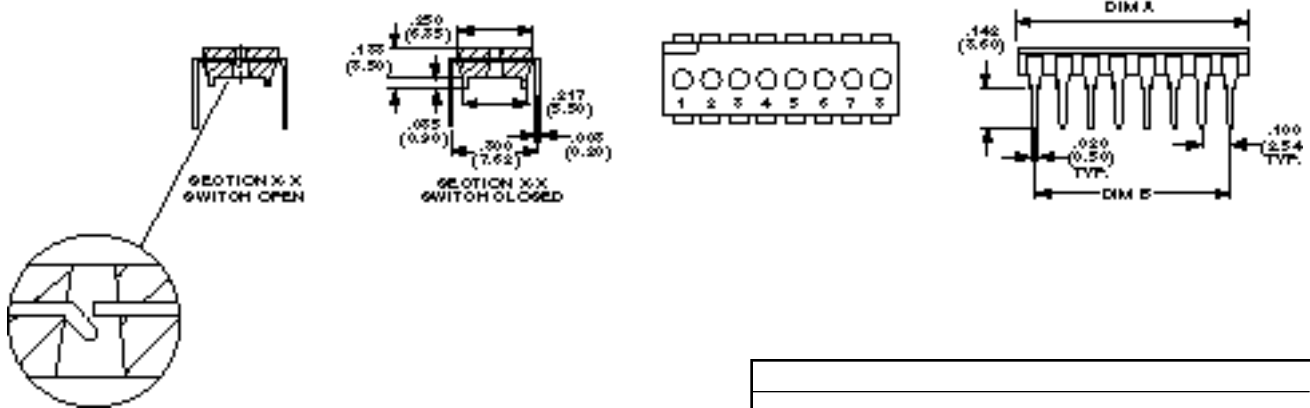
TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating1 A Max.
 Insulation Resistance1,000 Megohms @ 500 VDC min.
 Dielectric Strength1,000 VAC for one minute
 Actuation Force.....500 Grams max.

TS



TS08



TS06	6	.594 (15.10)	.500 (12.70)
TS08	8	.795 (20.20)	.700 (17.78)
TS10	10	.996 (25.30)	.900 (22.86)
TS12	12	1.196 (30.40)	1.100 (27.94)

“Process Sealed 7MM” Rotary Dip Switch

Thru-Hole and Surface Mount

MRD Series

FEATURES:

- 40% PCB area space savings
- 50% Lower in profile
- Hexadecimal or binary code, complement available
- Deflection temperature of 250°C for SMT reflow soldering
- Gold contacts, tin/lead terminals
- Sealed “O” ring design

MATERIAL SPECIFICATIONS:

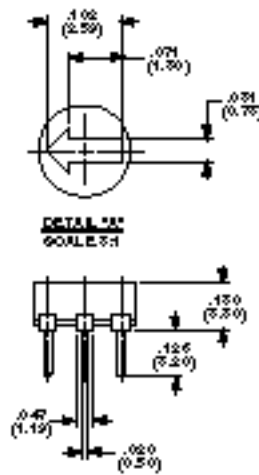
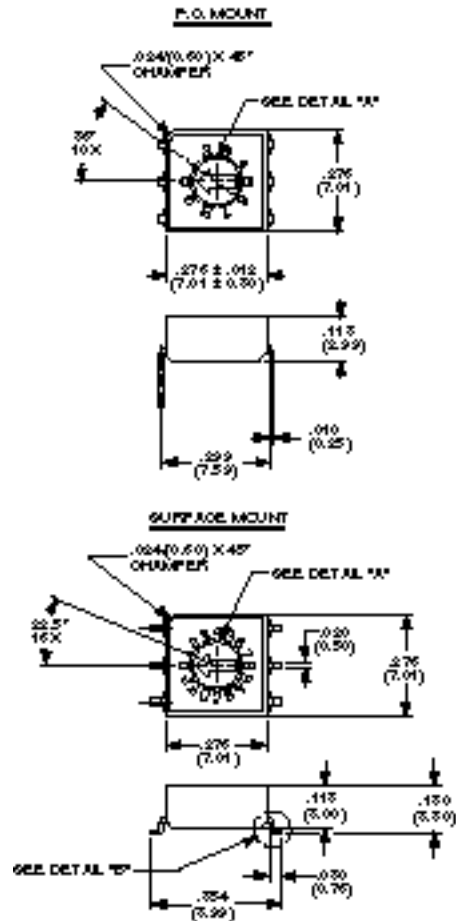
Fixed Contacts/Terminals.....Brass, gold plated / tin/lead
 Moving Contacts.....BeCu, gold plated
 Case MaterialPPS UL94V-0
 Rotor.....Nylon UL94V-0
 Cover MaterialPPS UL94V-0

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature.....-10°C to +85°C
 Storage Temperature.....-45°C to +100°C
 Solder Heat ResistanceMIL-STD 202F, Method 210
 IR Process CapabilityEIA-364-56 Level II (250°C peak)

TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating0.4 VA Max. @ 20 VDC
 Initial Contact Resistance.....50m Max. @ 2 VDC 10mA
 Dielectric Strength300 VAC for 1 minute
 Actuator Travel36° 10 Position, 22.5° 16 position
 Operating Force200 Grams avg.
 Life Expectancy20,000 Steps, mechanical



MRD10



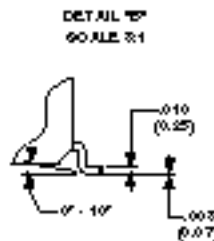
MRD10S



MRD16C



MRD16S

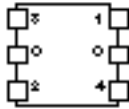


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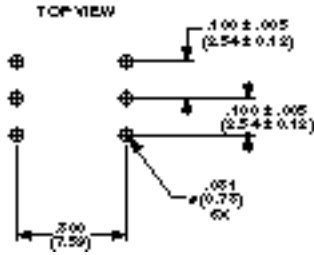
AUGAT Inc.
 452 John L. Dietsch Blvd.
 Andover Falls, MA 02762, USA

MRD Series 7MM Rotary Dip Switch in Thru-Hole and Surface Mount

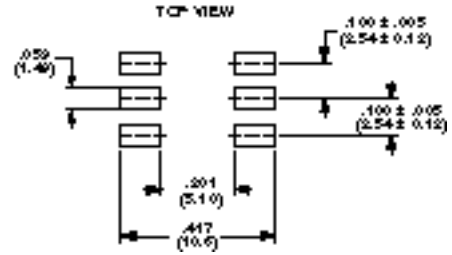
TERMINAL IDENTIFICATION
VIEWED FROM BOTTOM OF SWITCH



P.O. LAYOUT (THRU HOLE)



P.O. LAYOUT (SURFACE MOUNT)



TRUTH TABLES

10-Position, BCD (red actuator)

Pos.	0	1	2	3	4	5	6	7	8	9
C	X	X	X	X	X	X	X	X	X	X
1	X		X		X		X		X	
2	X	X			X	X			X	X
4	X	X	X	X					X	X
8	X	X	X	X	X	X	X	X		

16-Position, Hexadecimal (green actuator)

Pos.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1		X		X		X		X		X		X		X		X
2			X	X			X	X			X	X			X	X
4					X	X	X	X					X	X	X	X
8									X	X	X	X	X	X	X	X

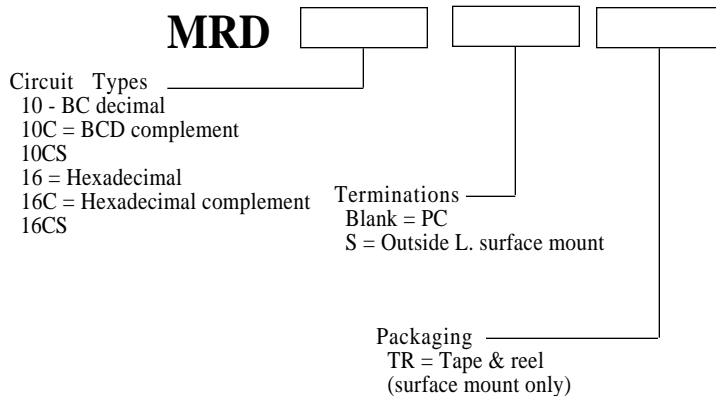
10-Position, BCD Complement (orange actuator)

Pos.	0	1	2	3	4	5	6	7	8	9
C	X	X	X	X	X	X	X	X	X	X
1		X		X		X		X		X
2			X	X			X	X		
4					X	X	X	X		
8									X	X

16-Position Hexadecimal Complement (white actuator)

Pos.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	X	X			X	X			X	X			X	X		
4	X	X	X	X					X	X	X	X				
8	X	X	X	X	X	X	X	X								

HOW TO ORDER



Color Code	
Circuit Type	Actuator Color
10	Red
10C	Orange
16	Green
16C	White

See pages M2-M4 for application specific indexing.

“Sealed Dip Rotary” Switch DRD “E” Thru-Hole and Surface Mount

The August/Alcoswitch “E” version of the DR series rotary Dip switch is a process sealed switch. With an actuator “O” ring seal, this switch withstands the stringent 60°C, one minute immersion

“Bubble” Test. Compliance with the “Bubble” test assures you of the compatibility of DRD “E” Series with the harshest of soldering and cleaning processes.

MATERIAL SPECIFICATIONS:

Contacts.....Gold flashed copper alloy
 TerminalsTin lead plated brass
 Base, Rotor, Case.....Glass filled PBT resin
 Movable Contact.....Gold flashed copper alloy
 Ball Support PlateCopper alloy
 Detent SpringStainless steel (spring)

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature.....-22°F to +185°F (-30°C to +85°C)
 Storage Temperature.....-49°F to 212°F (-45°C to +100°C)
 Vibration Resistance.....Subjected to vibration of 10-55hz per second with a total amplitude of .06 in. in 3 mutually perpendicular directions for 2 hours each
 Shock ResistanceWill withstand 50G acceleration in 3 different planes for a period of 11 milliseconds
 Salt Spray TestWithstands an atmosphere of 5% salt water at temperature of 50°C
 Hydrogen Sulfide Test.....Withstands an atmosphere of 15-20 PPM hydrogen sulfide gas at temperature of 40°C for 240 hours
 Atmospheric Test.....Withstands an atmosphere of 30-50 PPM sulfite gas at a temperature of 40°C for 240 hours
 Solder Heat ResistanceWithstands 5 sec. flow solder bath of 260°C when mounted on a .06" thick PC board per MIL-STD 202, Method 210
 Bubble TestWithstands submersion in 60°C Flouriert for 1 min. without leakage

TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating0.4 VA @ 20 VDC max.
 Initial Contact Resistance.....50 Milliohms max. @ 2 VDC
 Insulation Resistance1,000 Megohms min. @ 100 VDC
 Dielectric Strength300 VAC RMS @ sea level
 Actuation Strength (DRM)...5.0 Lbs. max. lateral force
 Operating Force6 Oz.-in. nom.
 SMT Operating Force3 Oz.-in. nom.
 Life Expectancy10 Pos: 2,000



DRD10E



DRD16CE

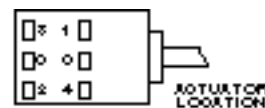
Note: Common terminals are connected internally, except on hybrid versions.

TRUTH TABLES

Terminal Identification
(view from bottom of the switch)



VIEW FROM BOTTOM OF THE SWITCH



FOR HYBRID VERSIONS, COMMON BETWEEN TERMINALS 1 AND 4 IS RESISTOR OR DIODE COMMON.
 NOTE: COMMON TERMINALS ARE CONNECTED INTERNALLY, EXCEPT ON HYBRID VERSIONS.

Pos.	0	1	2	3	4	5	6	7	8	9
C	X	X	X	X	X	X	X	X	X	X
1	X				X	X			X	
2		X	X			X	X			
4				X	X	X	X			
8								X	X	

Pos.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1		X				X				X				X		
2			X	X				X	X				X	X		X
4					X	X	X	X					X	X	X	X
8									X	X	X	X	X	X	X	X

Pos.	0	1	2	3	4	5	6	7	8	9
C	X	X	X	X	X	X	X	X	X	X
1	X		X		X			X		X
2	X	X			X	X			X	X
4	X	X	X	X					X	X
8	X	X	X	X	X	X	X	X		

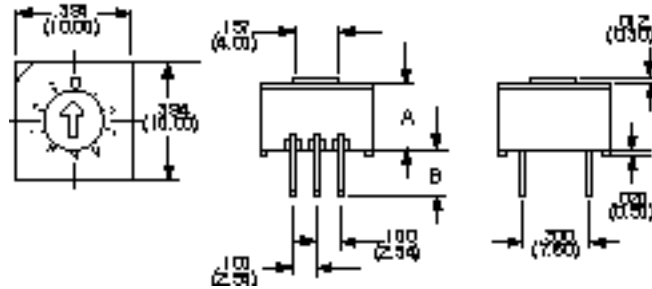
Pos.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1	X		X		X			X		X			X		X	
2	X	X			X	X			X	X			X	X		
4	X	X	X	X					X	X	X	X				
8	X	X	X	X	X	X	X	X								

Need more technical information?
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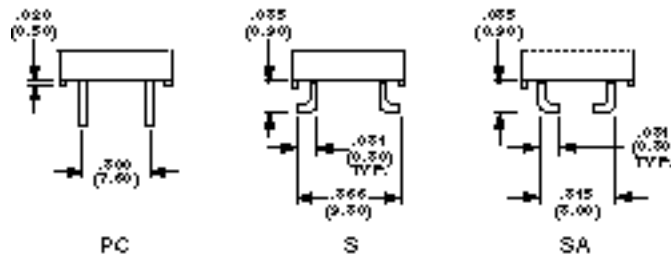
DRD "E" "Sealed Dip Rotary" Switch Thru-Hole and Surface Mount

"D" FLUSH ACTUATOR

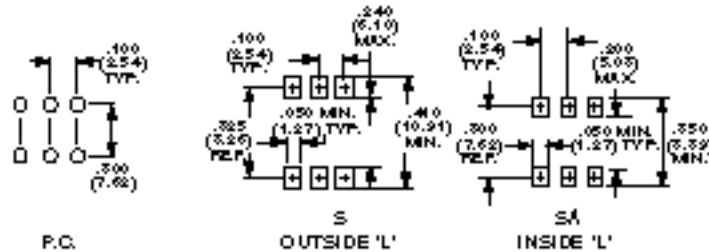


Dim.	DR
A	.236 (6.00)
B	.146 (3.70)

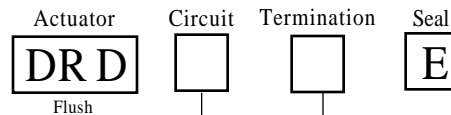
SURFACE MOUNT TERMINATIONS - PC



PAD LAYOUTS



HOW TO ORDER



10 = BCD
 10C = BCD Complement
 16 = Hexadecimal
 16C = Hexadecimal Complement

Blank = PC
 S = Outside
 SA = Inside

Rotary Dip Switches Thru-Hole and Surface Mount

DR, RR & RA/C Series

MATERIAL SPECIFICATIONS:

Contact/Terminals.....Gold flashed copper alloy
Base, Rotor, Case.....Polyester

TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating0.4 VA @ 20 VDC
Initial Contact Resistance.....50 Milliohms max. @ 2 VDC
Insulation Resistance1,000 Megohms min. @ 100 VDC
Dielectric Strength300 VAC RMS @ sea level

ENVIRONMENTAL SPECIFICATIONS:

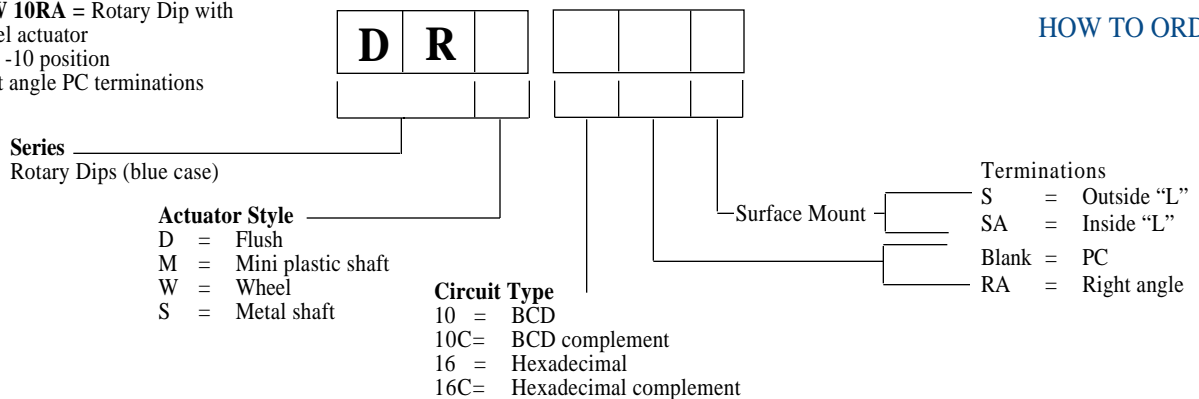
Operating Temperature.....-22°F to +185°F (-30°C to +85°C)
Storage Temperature.....-49°F to +212°F (-45°C to + 100°C)
Vibration Resistance.....Subjected to vibration of 10-55hz per second with a total amplitude of .06 in. in 3 mutually perpendicular directions for 2 hours each
Shock ResistanceWill withstand 50G acceleration in 3 different planes for a period of 11 milliseconds
Salt Spray TestWithstands an atmosphere of 5% salt water at temperature of 50°C
Hydrogen Sulfide Test.....Withstands an atmosphere of 15-20 PPM hydrogen sulfide gas at temperature of 40°C for 240 hours
Atmosphere TestWithstands an atmosphere of 30-50 PPM sulfide gas at a temperature of 40°C for 240 hours
Solder Heat ResistanceWithstands 5 sec. flow solder bath of 260°C when mounted on a .06" thick PC board per MIL-STD 202, Method 210

Rotary Dip Switches DR Series

FEATURES:

- Available in PC and surface mount configurations.
 - High pressure contacts (140K PSI) provide 10 pos: 2,000/16 pos: 1,250 rotation life.
 - Unique design utilizes high pressure pin-point sliding contacts to penetrate contaminants on contact surface.
 - Terminals insert molded into base.
 - Screwdriver, knob and shaft (plastic and steel) type actuators available in both upright and right angle versions.
 - 10 And 16 position versions with both real and complement codes.
- Note: Common terminals connected internally.

Example: DRW 10RA = Rotary Dip with
Wheel actuator
BDC -10 position
Right angle PC terminations



See pages M2-M4 for application specific indexing.

Need more technical information?

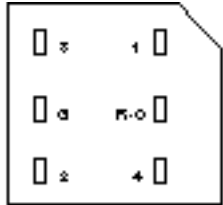
Consult your local Augat sales office

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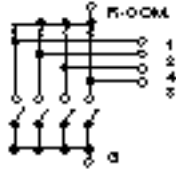
RR Series Hybrid Rotary Dip Switches with "Internal Resistors"



RRD16C3-3KRA



SWITCH & OPTION VIEW



FEATURES:

All the features of the DR Series (page A21) - PLUS

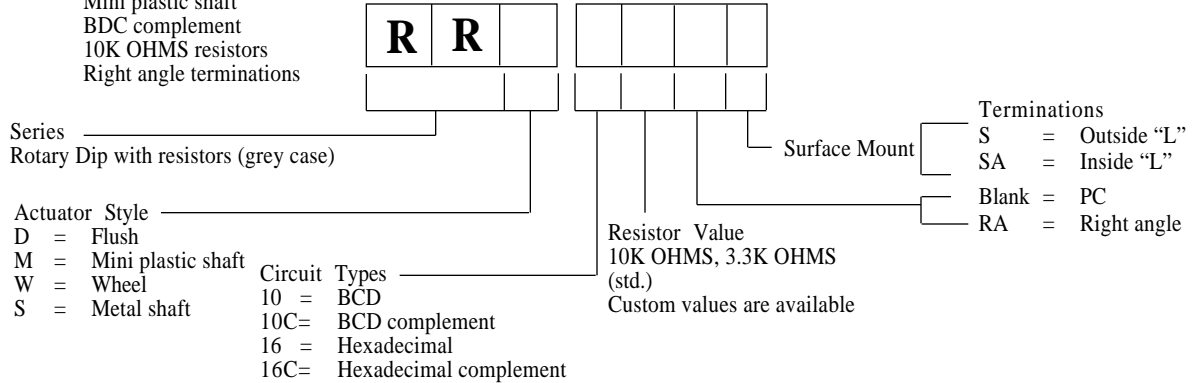
- Thick film resistors molded into the base of the switch.
- Replaces discrete resistor network plus Rotary Dip Switch with one component.
- Available with 3.3K OHM and 10K OHMS resistors.
- Custom resistor values available.
- Ceramic substrate allows wave soldering temperature of 285°C for up to 30 seconds.

RATED PWR.	RESIST.	TOLERANCE	MAX. VOLTS
125 mW	3.3K Ohms	±5° at 85°	24V

HOW TO ORDER

Example: RRM10C10KRA = Rotary Dip with resistors with

- Mini plastic shaft
- BCD complement
- 10K OHMS resistors
- Right angle terminations



See pages M2-M4 for application specific indexing.

Hybrid Rotary Dip Switches with "Internal Diodes" RA/C Series

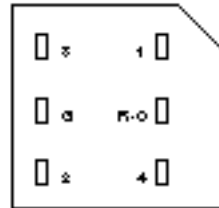
FEATURES:

All the features of the DR Series (page A21) - PLUS

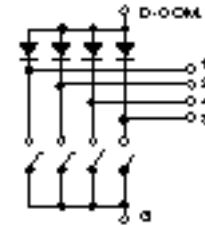
- Diodes molded into the base of the switch.
- Replaces discrete individual diodes.
- Rotary Dip Switch with one component.
- Available in both Cathode common and Anode common versions.
- Ceramic substrate allows wave soldering temperatures up to 245°C for up to 30 seconds.



RAD10



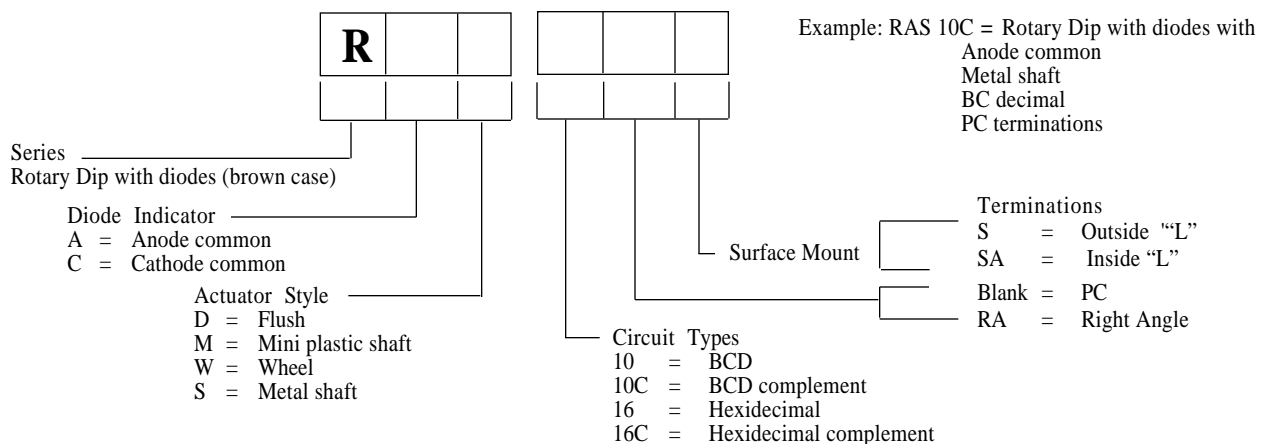
SWITCH BOTTOM VIEW



ANODE COMMON

DIODE NETWORK RATINGS)												
Application	Absolute Maximum Rating (25°C)						Electric Characteristics					
	VRH (V)	VR (V)	IFSM (A)	IFM (mA)	IO (mA)	T (°C)	VF ₁ (V) MAX/1F 10mA	VF ₂ (V) MAX/1F 50mA	VF ₃ (V) MAX/1F 100MA	IR (uA) MAX/VF (V)	C (PF) MAX	trr (ns) MAX
High Speed	75	50	40	300	100	125	1.0	1.0	1.2	0.1/50	4.0	4.0

HOW TO ORDER

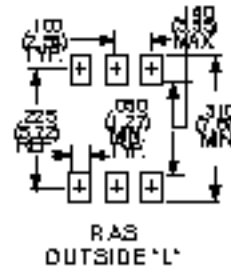
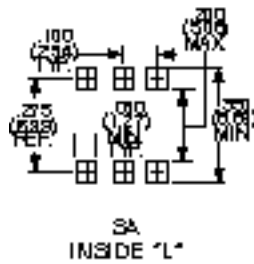
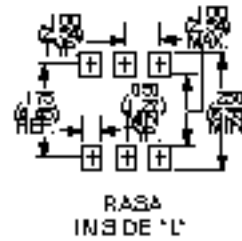
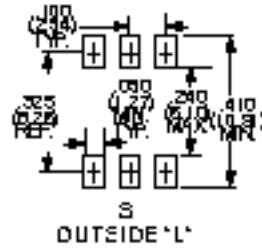


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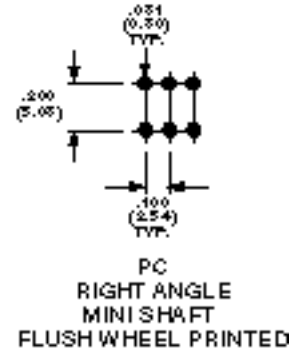
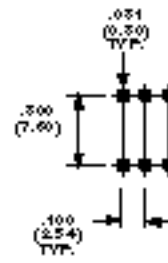
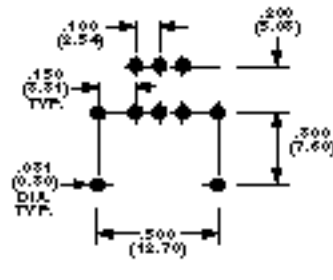
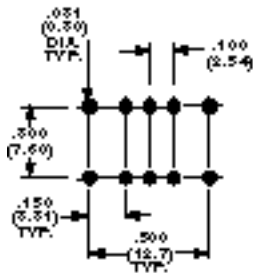
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DR, RR & RA/C Series *Rotary Dip Switches*

PAD LAYOUTS

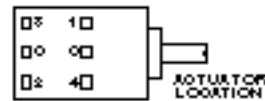


FOOTPRINTS



TRUTH TABLES

Terminal Identification
(view from bottom of the switch)



FOR HYBRID VERSIONS, COMMON BETWEEN TERMINALS 9 AND 4 IS RESISTOR OR DIODE COMMON.

Pos.	0	1	2	3	4	5	6	7	8	9
C	X	X	X	X	X	X	X	X	X	X
1	X				X				X	
2		X	X			X	X			
4				X	X	X	X			
8								X	X	

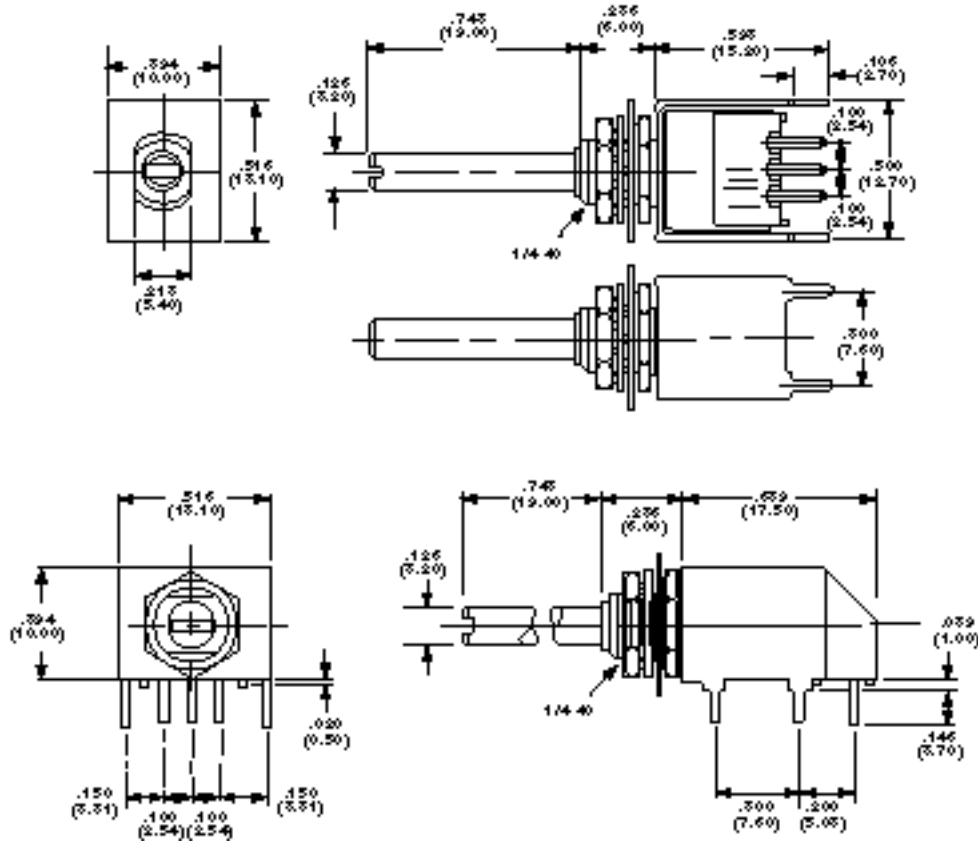
Pos.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1		X				X				X				X		
2			X	X			X	X			X	X			X	X
4					X	X	X	X					X	X	X	X
8									X	X	X	X	X	X	X	X

Pos.	0	1	2	3	4	5	6	7	8	9
C	X	X	X	X	X	X	X	X	X	X
1	X		X		X		X		X	
2	X	X			X	X			X	X
4	X	X	X	X					X	X
8	X	X	X	X	X	X	X	X		

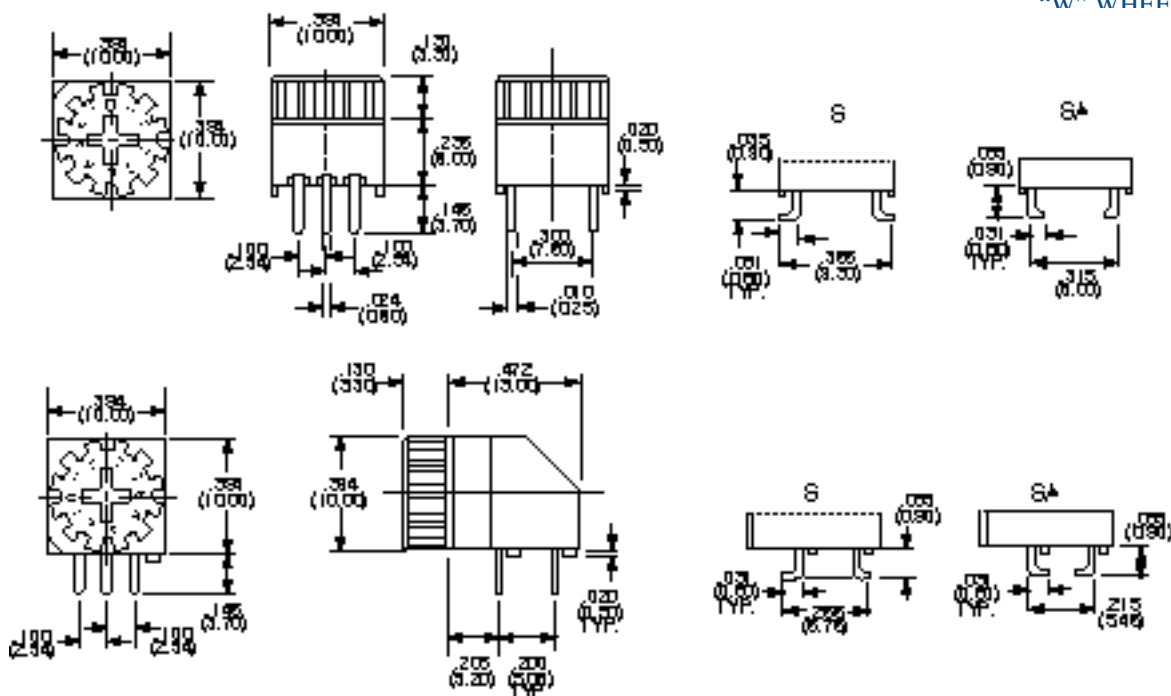
Pos.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1	X		X		X		X		X		X		X		X	
2	X	X			X	X			X	X			X	X		
4	X	X	X	X					X	X	X	X				
8	X	X	X	X	X	X	X	X								

Rotary Dip Switches DR, RR & RA/C Series

“S” METAL SHAFT ACTUATOR



“W” WHEEL ACTUATOR

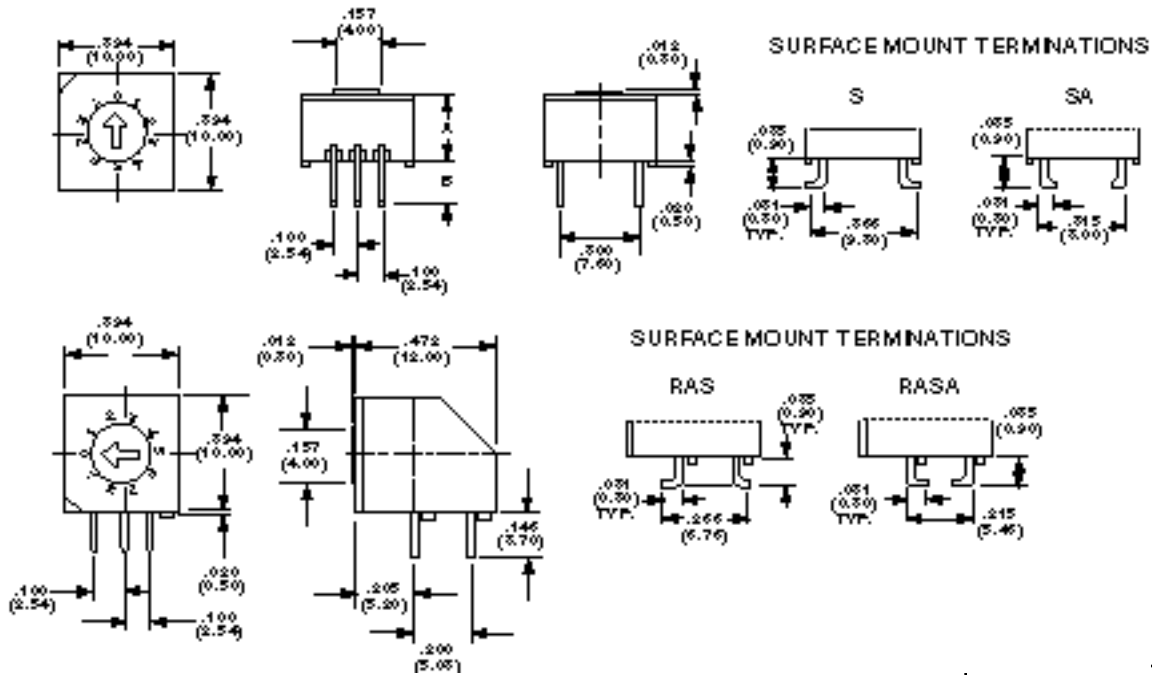


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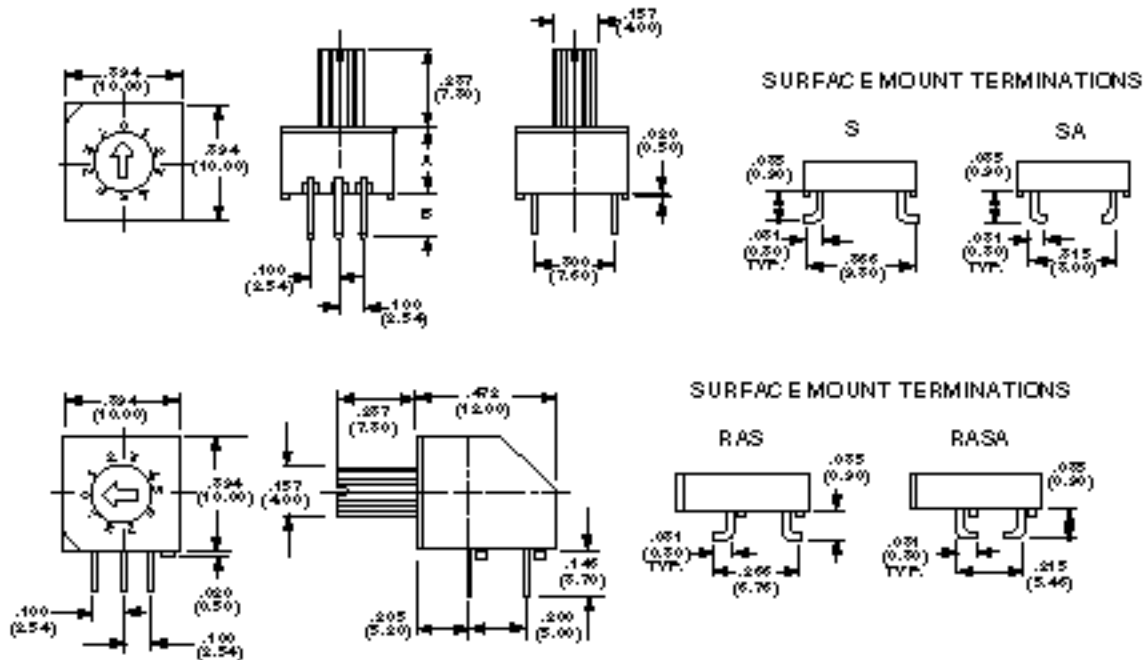
“D” FLUSH ACTUATOR



DIM.	DR	RC, *RA, RR
A	.236 (6.00)	.256 (6.50)
B	.146 (3.70)	.126 (3.20)

* No standoffs on RC, RA & RR Models.

“M” MINI-SHAFT ACTUATOR



DIM.	DR	RC, *RA, RR
A	.236 (6.00)	.256 (6.50)
B	.146 (3.70)	.126 (3.20)

* No standoffs on RC, RA & RR Models.

Rotary Dip Switches **DRS Series**

MATERIAL SPECIFICATIONS:

Contacts.....Gold plate
 Case MaterialPolyester
 Actuator Material.....Stainless steel
 Terminals/Fixed Contacts.....Gold plate
 Terminal Seal.....Insert molded

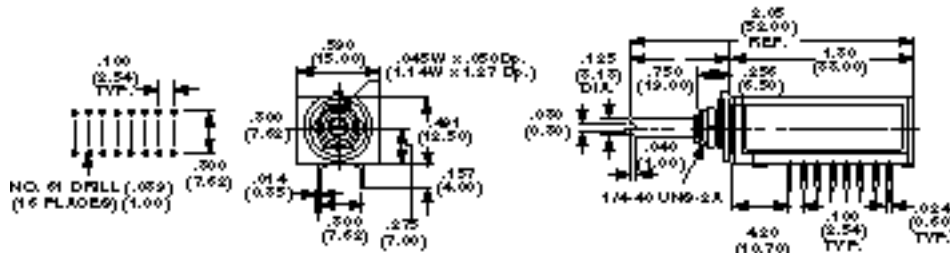
TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating125mA @ 28 VDC/VAC
 Initial Contact Resistance.....200 Milliohms max.
 Insulation Resistance100 Megohms min.
 Dielectric Strength500 Volts RMS @ sea level
 Actuation Force.....7 Ounce-inch
 Life Expectancy10,000 Cycles

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature.....-20°C to +80°C (-4°F to +176°F)
 Storage Temperature.....-20°C to +85°C (-4°F to +185°F)
 Solder Heat ResistanceManual: 270° for 3 seconds
 Wave: 245°C for 3 seconds

SP/12 POS.



DRS112

DP/6P



DRS26

DRS112 Circuit Codes

Position	C	1	2	3	4	5	6	7	8	9	10	11	12
1	X	X											
2	X		X										
3	X			X									
4	X				X								
5	X					X							
6	X						X						
7	X							X					
8	X								X				
9	X									X			
10	X										X		
11	X											X	
12	X												X

DRS26 Circuit Codes

Position	C	1	2	3	4	5	6	C	1	2	3	4	5	6
1	X	X						X	X					
2	X		X					X		X				
3	X			X				X			X			
4	X				X			X				X		
5	X					X		X					X	
6	X						X	X						X

3P/4 POS AND 4P/3 POS.

DRS34 & DRS43 Circuit Codes (For 1 pole only)

Position	C	1	2	3
1	X	X		
2	X		X	
3	X			X

Position	C	1	2	3	4
1	X	X			
2	X		X		
3	X			X	
4	X				X

DRS1001 Circuit Codes

Position	C	1	2	4	8	C	8	4	2	1
0	X					X	X	X	X	X
1	X	X				X	X	X	X	
2	X		X			X	X	X		X
3	X	X	X			X	X	X		
4	X			X		X	X		X	X
5	X	X	X	X		X	X			X
6	X		X	X		X	X			
7	X	X	X	X		X	X			
8	X				X	X	X	X	X	X
9	X	X			X	X	X	X	X	



DRS43

BCD



DRS1001

Model	No. Poles	Positions	Detent	Description
DRS112	1	12	30°	Decimal Code
DRS26	2	6	30°	Decimal Code
DRS34	3	4	30°	Decimal Code
DRS43	4	3	30°	Decimal Code
DRS1001	1	10	36°	BCD & BCD Complement

Note: On DRS112 & DRS26, the last two pins are not connected

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