



SR120 THRU SR1200

VOLTAGE RANGE 20 to 200 Volts  
CURRENT 1.0 Ampere

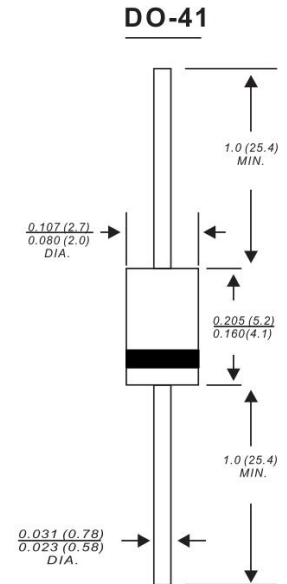


Features

- Fast switching speed
- Low forward voltage
- Low power high efficiency
- High surge capability
- High temperature soldering guaranteed 250°C/10 seconds,0.373”(9.5mm)lead length

Mechanical Data

- Case: Transfer molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead :Solder plated, solderable per MIL-STD-750 method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.012ounce, 0.33 grams



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

- Ratings at 25°C ambient temperature unless otherwise specified
- Single phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

TYPE NUMBER	SYMBOL	SR 120	SR 140	SR 160	SR 180	SR 1100	SR 1150	SR 1200	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	40	60	80	100	150	200	Volts
Maximum RMS Voltage	$V_{RMS}$	14	28	42	56	70	105	140	Volts
Maximum DC Blocking Voltage	$V_{DC}$	20	40	60	80	100	150	200	Volts
Maximum Average Forward Rectified Current at TLsee figure 1 $T_L = 100^\circ C$	$I_{(AV)}$	1.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30							Amps
Maximum Instantaneous Forward Voltage @ 1.0A <sup>(Note1)</sup>	$V_F$	0.55	0.70	0.85	0.95				Volts
Maximum DC Reverse Current at rated DC Blocking Voltage per element	$T_A = 25^\circ C$	0.5					0.15		mA
	$T_A = 125^\circ C$	20		10		1.5			
Typical thermal resistance <sup>(NOTE 2)</sup>	$R_{\theta JA}$	40							°C/W
	$R_{\theta JL}$	13							
Operating Junction Temperature	$T_J$	-55 to +150							°C
Storage Temperature Range	$T_{STG}$	-55 to +150							°C

Notes:

1. Pulse test:300µs pulse width,1% duty cycle.
2. Thermal Resistance from junction to Ambient at .375”(9.5mm)lead length, P.C.board mounted.

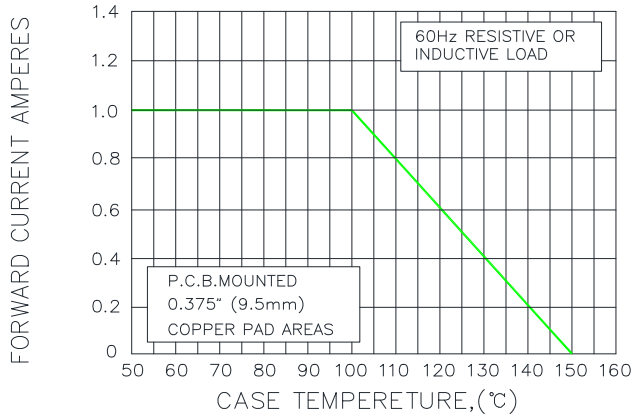


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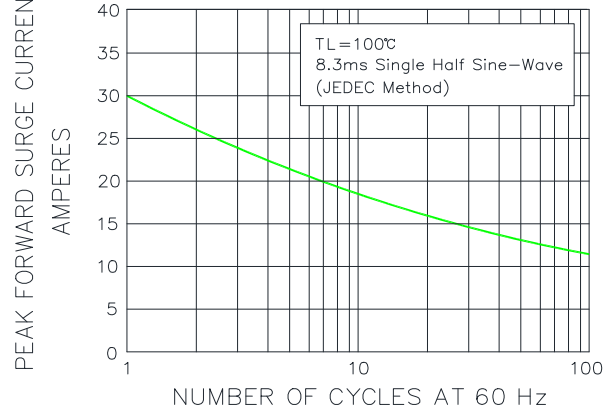
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Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$  unless otherwise noted)

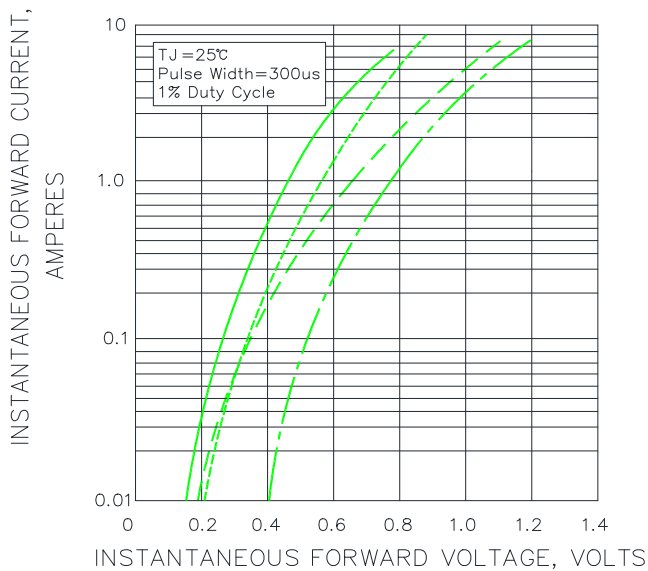
F1G.1—FORWARD CURRENT DERATING CURVE



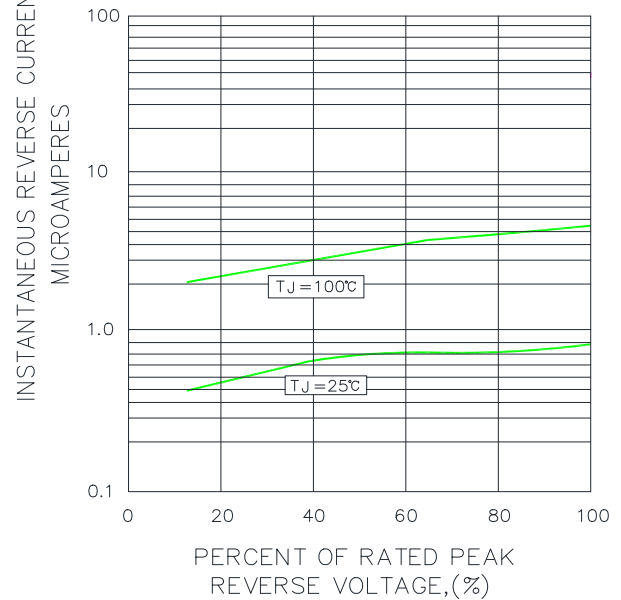
F1G.2—MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



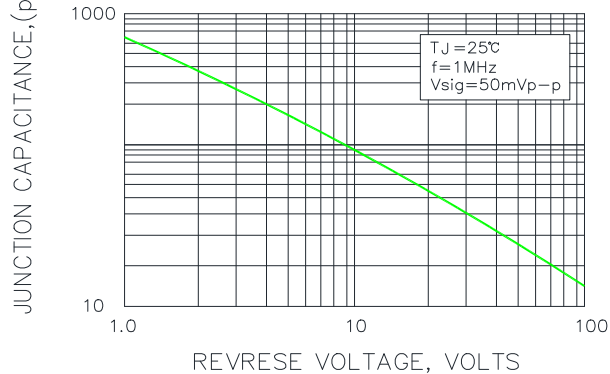
F1G.3—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



F1G.4—TYPICAL REVERSE CHARACTERISTICS

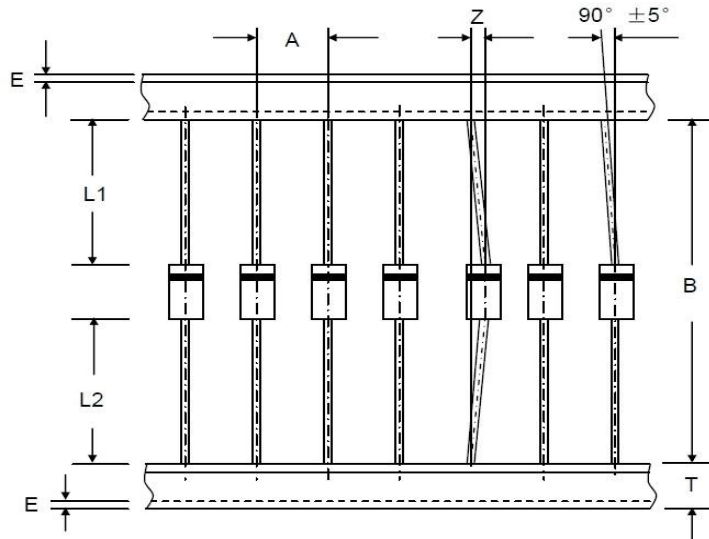


F1G.5—TYPICAL JUNCTION CAPACITANCE





Axial Lead Taping Specifications for Rectifiers

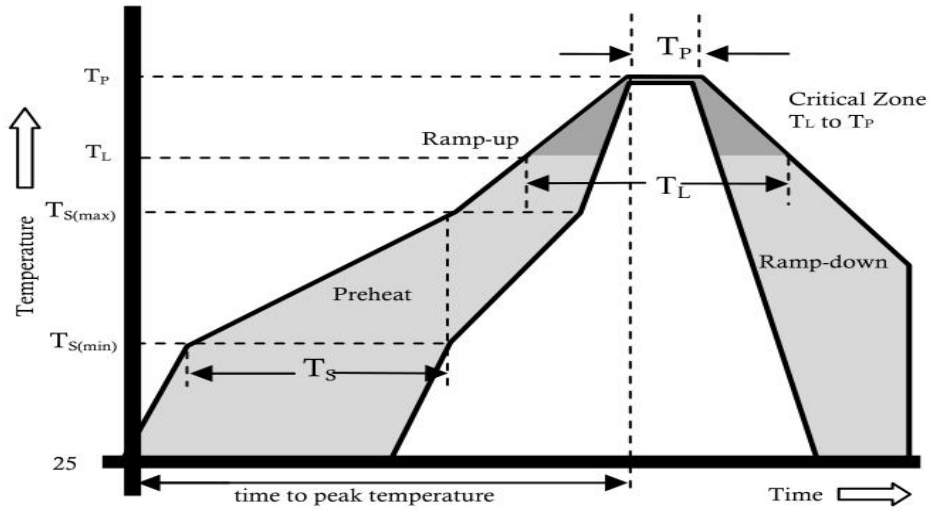


Component Outline	Component Pitch A	Inner Tape Pitch B		Cumulative Tolerance
	±0.5mm	+0.5mm	-0.4mm	
DO-204AL(DO-41)	5.0mm	52.4mm	26.0mm	2.0mm/20pitch

Item	Symbol	Specifications(mm)	Specifications(inch)
Component alignment	Z	1.2 max	0.048 max
Tape width	T	6.0±0.4	0.236±0.016
Exposed adhesive	E	0.8 max	0.032 max
Body eccentricity	L1 - L2	1.0 max	0.040 max



Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp( $T_L$ ) to peak)		3°C/sec. Max.
TS(max) to TL - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature ( $T_L$ )(Liquidus)	+217°C
	Temperature ( $T_L$ )	60-150 secs.
Peak Temp ( $T_P$ )		+(260+0/-5)°C
Time within 5°C of actual Peak Temp ( $T_P$ )		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp ( $T_P$ )		8 min. Max.
Do not exceed		+260°C



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