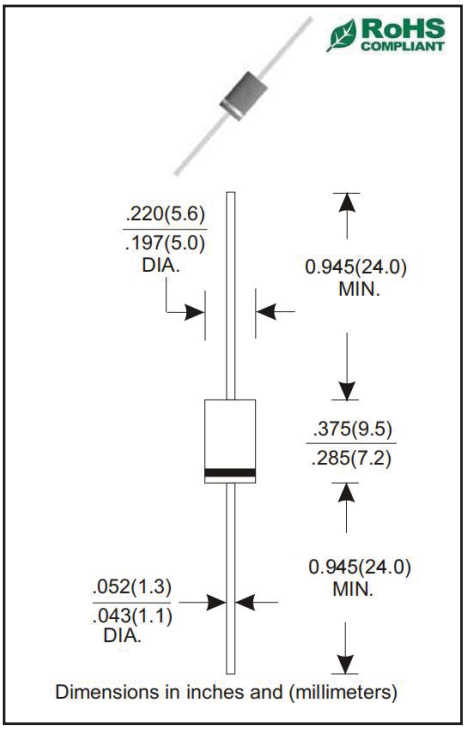
SR502 - SR5200

Reverse Voltage - 20 to 200 V
Forward Current - 5 Ampere

AXIAL MOUNT SCHOTTKY DIODE



FEATURES

- High Performance and Reliability best suited for Automotive application
- 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: 0.042ounce, 1.19 gram

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		SYMBOLS	SR 502	SR 504	SR 506	SR 508	SR 510	SR 5150	SR 5200	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 TL =100°C		$I_{(AV)}$	5.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)		I_{FSM}	150							Amps
Maximum Instantaneous Forward Voltage @ 5.0A (Note1)		V_F	0.55		0.7	0.85			0.95	Volts
Maximum DC Reverse Current at rated DC Blocking Voltage per element	T_A = 25°C	I_R	0.5					0.15		mA
	T_A = 125°C		20			10		1.5		
Typical thermal resistance (NOTE 2)		$R_{\theta JA}$	55							°C/W
		$R_{\theta JL}$	12							
Operating Junction Temperature		T_J	-55 to +150					-55 to +175		°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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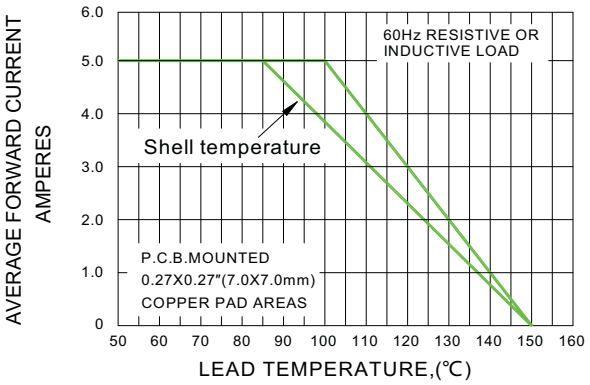
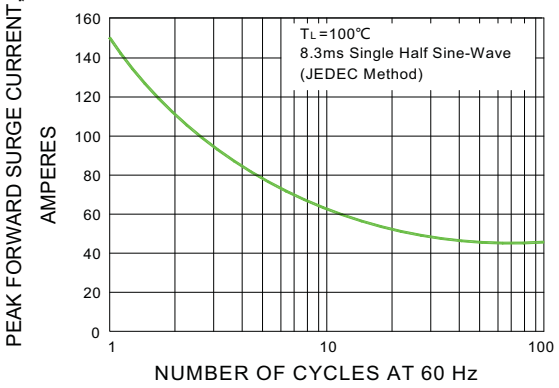
Ratings and Characteristic Curves (T_A=25°C unless otherwise noted)

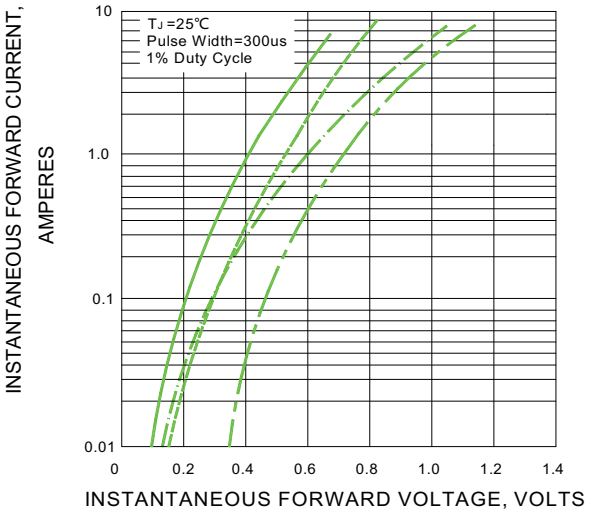
F1G.1-FORWARD CURRENT DERATING CURVE



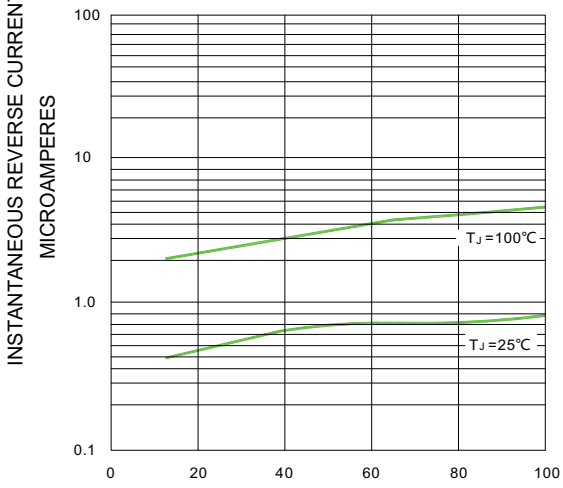
F1G.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



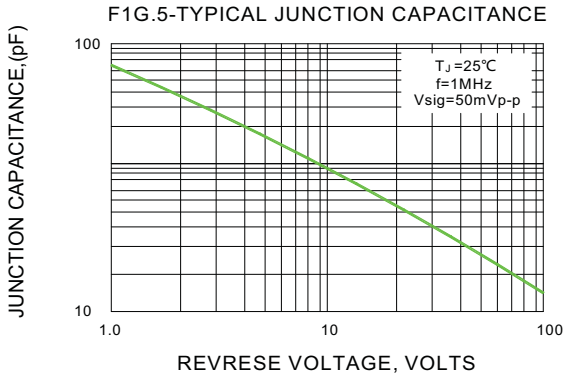
F1G.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



F1G.4-TYPICAL REVERSE CHARACTERISTICS



F1G.5-TYPICAL JUNCTION CAPACITANCE



Diode Symbol	Diode Body Marking
SR502	SR520
SR503	SR530
SR504	SR540
SR506	SR560
SR510	SR510
SR5150	SR5150
SR5200	SR5200

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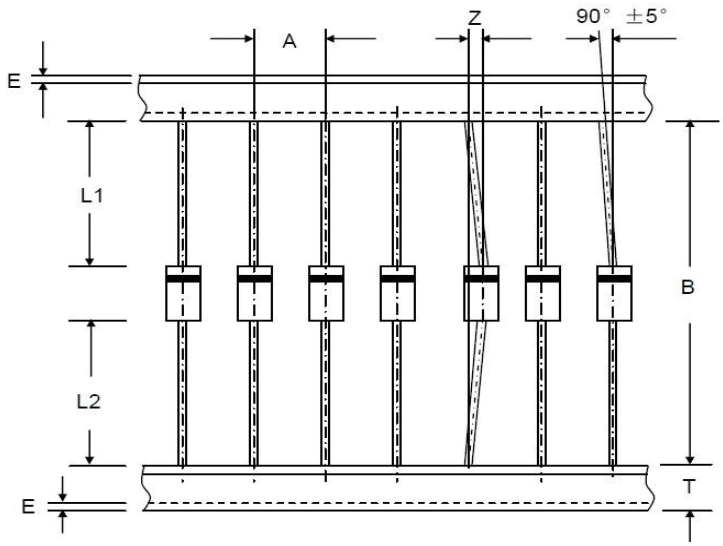
Axial Lead Taping Specifications for Rectifiers

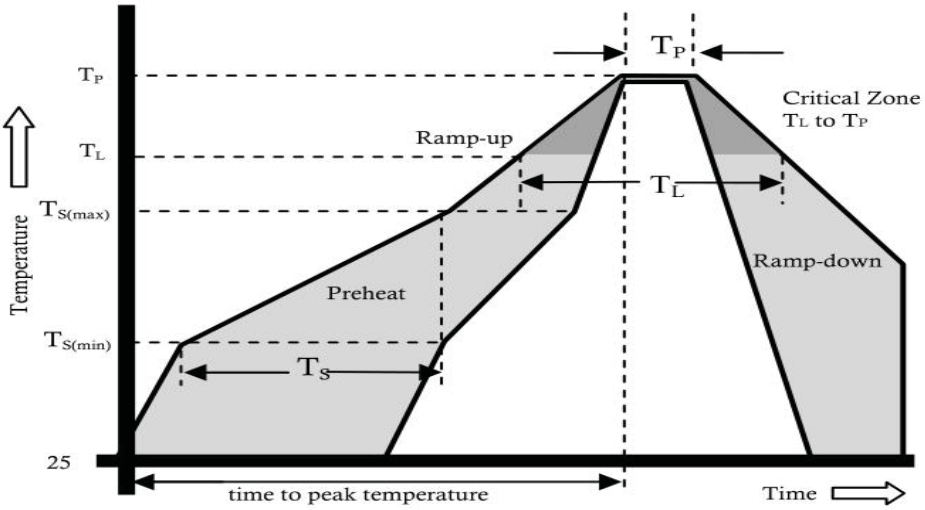


Component Outline	Component Pitch A	Inner Tape Pitch B	Cumulative Tolerance
	±0.5mm	+0.5mm -0.4mm	
DO-201AD(DO-27)	10.0mm	52.4mm	2.0mm/20pitch

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	IL1-L2I	1.0 max	0.040 max

AXIAL MOUNT SCHOTTKY DIODE

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(TL) to peak)		3°C/sec. Max.
TS(max) to TL - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature (TL)(Liquidus)	+217°C
	Temperature (TL)	60-150 secs.
Peak Temp (TP)		+(260+0/-5)°C
Time within 5°C of actual Peak Temp (TP)		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (TP)		8 min. Max.
Do not exceed		+260°C

AXIAL MOUNT SCHOTTKY DIODE

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