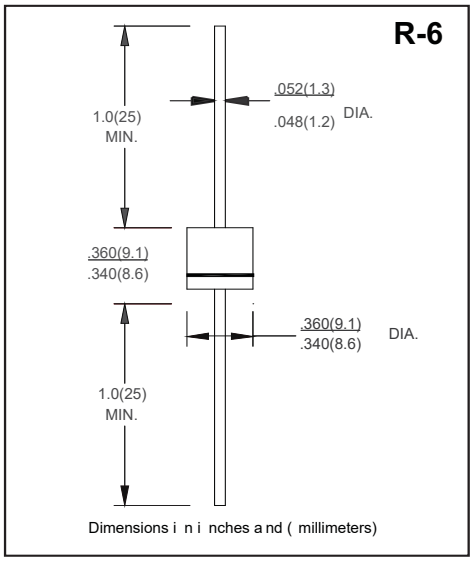
10A05 - 10A10

Voltage Range - 50 to 1000 V
Forward Current - 10 Ampere

AXIAL SILASTIC GUARD JUNCTION STANDARD RECTIFIER

FEATURES

- Low cost construction
- Low forward voltage drop
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:
  260℃/10 secods/.375”(9.5mm)lead length at 5 lbs(2.3kg) tension
- This product is available in AEC-Q101 compliant with PPAP capability
  Note: For AEC-Q101 compliant products, please prefix - AT in the part number while ordering



MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-O rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.07 ounce, 2.0 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25^{O}C ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

PARAMETER		SYMBOLS	10A05	10A1	10A2	10A4	10A6	10A8	10A10	UNITS
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage		V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage		V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current 0.375”(9.5mm) lead length at T_A= 60℃		$I_{(AV)}$	10.0							Amps
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)		I_{FSM}	450							Amps
Maximum Instantaneous Forward Voltage @10.0A		V_F	0.95							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage per element	T_A = 25℃	I_R	10							µAmps
	T_A = 100℃		1.0							mAmps
Maximum Full Load Reverse Current, full cycle average 0.375”(9.5mm)lead length at T_L=105℃		$I_{R(AV)}$	1.0							mAmps
Typical Junction Capacitance (Note 1)		C_J	150							pF
Typical Thermal Resistance (Note 2)		$R_{\theta JA}$	10							℃/W
Operating Junction Temperature Range		T_J, T_{STG}	-55 to +150							℃

Notes:

1. Measured at 1.0MHz and Applied Reverse Voltage of 4.0V Volts.
2. Thermal Resistance from junction to Ambient at .375”(9.5mm)lead length, P.C.board mounted with 1.1”× 1.1”(30× 30mm) copper heatsink .

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RATING AND CHARACTERISTIC CURVES 10A05 - 10A10

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

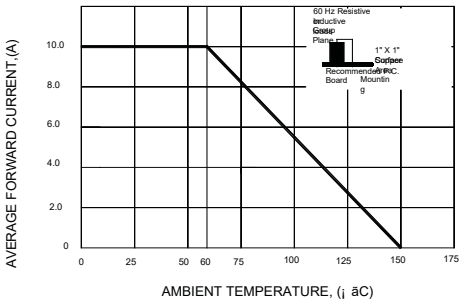


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

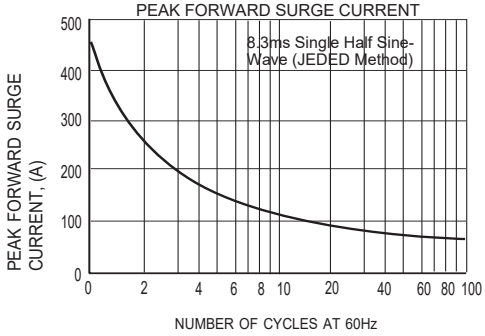


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

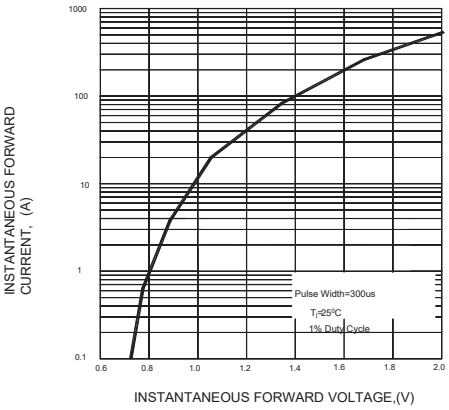


FIG.4-TYPICAL REVERSE CHARACTERISTICS

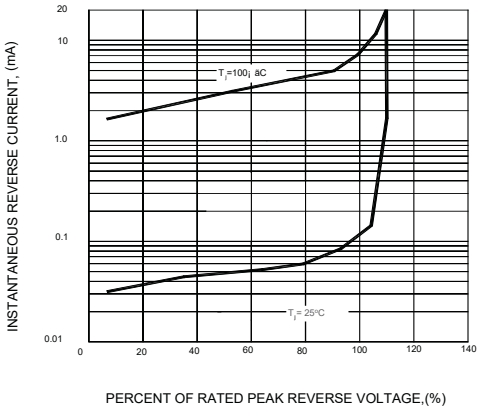
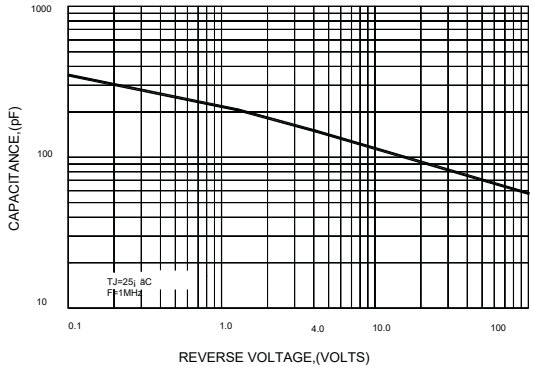


FIG.5-TYPICAL JUNCTION CAPACITANCE



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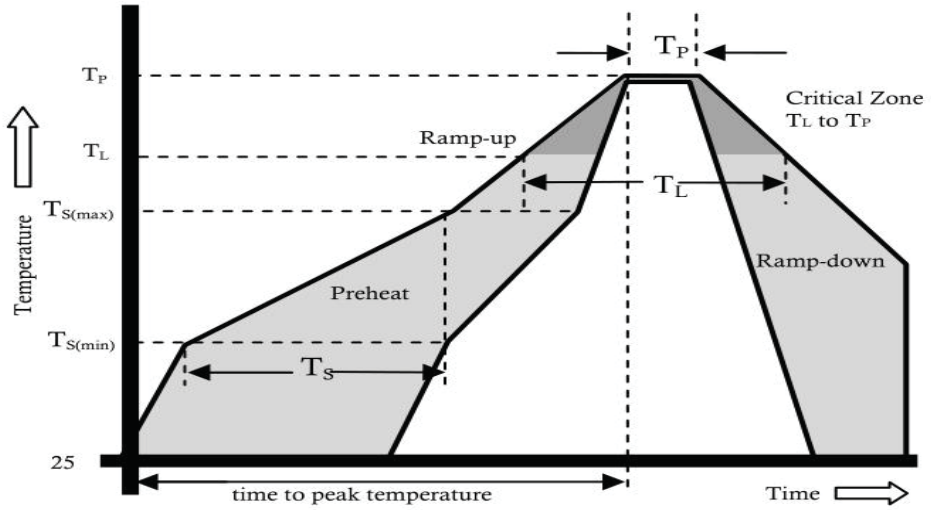
Reflow Profile



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.
T_S(max) to T_L - 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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