Semiconductor

Datasheet

2Amps FAST RECOVERY PLASTIC RECIFIERS

BY296~299 Series

Description

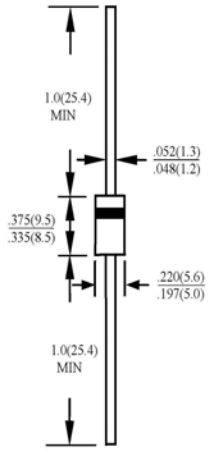
FEATURES

- LOW COST
- UL 94V0 FLAME RETARDANT EPOXY MOLDING COMPOUND
- DIFFUSED JUNCTION
- HIGH SURGE CURRENT CAPABILITY

MECHANICAL DATA

- CASE: TRANSFER MOLDED, DO201AD, DIMENSIONS IN INCHES AND (MILLIMETERS)
- LEADS: SOLDERABLE PER MIL-STD-202,METHOD 208
- POLARITY: CATHODE INDICATED BY COLOR BAND
- WEIGHT: 1.2 GRAMS

Dechanical Dimensions



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED SINGLE PHASE, HALF WAVE, 60 HZ, RESISTIVE OR INDUCTIVE LOAD. FOR CAPACITIVE LOAD, DERATE CURRENT BY 20%

RATINGS	SYMBOL	BY296	BY297	BY298	BY299	UNITS
MAXIMUM RECURRENT PEAK REVERSE VOLTAGE	V_{RRM}	100	200	400	600	V
MAXIMUM RMS VOLTAGE	V_{RMS}	70	140	280	420	V
MAXIMUM DC BLOCKING VOLTAGE	V_{DC}	100	200	400	600	V
MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT 0.375"(9.5mm) LEAD LENGTH AT TA=55°C	I_O	2.0				A
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD	I_{FSM}	70				A
TYPICAL JUNCTION CAPACITANCE (NOTE 1)	C_J	60				PF
TYPICAL THERMAL RESISTANCE (NOTE 2)	$R_{\theta ja}$	25				℃/W
STORAGE TEMPERATURE RANGE	T_{STG}	- 55 TO + 150				℃
OPERATING TEMPERATURE RANGE	T_{OP}	- 55 TO + 150				℃

ELECTRICAL CHARACTERISTICS (A_T T_A =25°C UNLESS OTHERWISE NOTED)

CHARACTERISTICS	SYMBOL	BY296	BY297	BY298	BY299	UNITS
MAXIMUM FORWARD VOLTAGE AT I_O DC	V_F	1.3				V
MAXIMUM REVERSE CURRENT AT 25℃	I_R	10				μA
MAXIMUM REVERSE CURRENT AT 100℃	I_R	100				μA
MAXIMUM REVERSE RECOVERY TIME (NOTE 3)	T_{RR}	150			250	nS

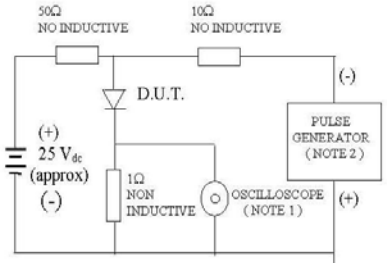
NOTE: 1. MEASURED AT 1 MHZ AND APPLIED REVERSE VOLTAGE 0F 4.0 VOLTS

2. BOTH LEADS ATTACHED TO HEAT SINK 35×35×1t(mm) COPPER PLATE AT LEAD LENGTH 5mm

3. REVERSE RECOVERY TEST CONDITIONS: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

RATINGS AND CHARACTERISTIC CURVE BY329~BY329

FIG. 1 -TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTE: 1. RISE TIME=7ns MAX. INPUT IMPEDANCE=1 MOhms 22PF
2. RISE TIME =10 ns MAX. SOURCE IMPEDANCE=50 OHMS

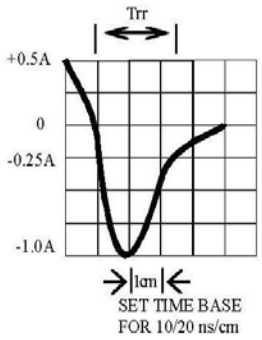


FIG. 2 -TYPICAL FORWARD CURRENT DERATING CURVE

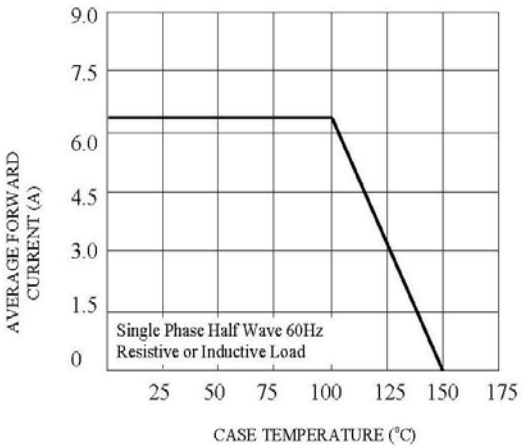


FIG. 3 -TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

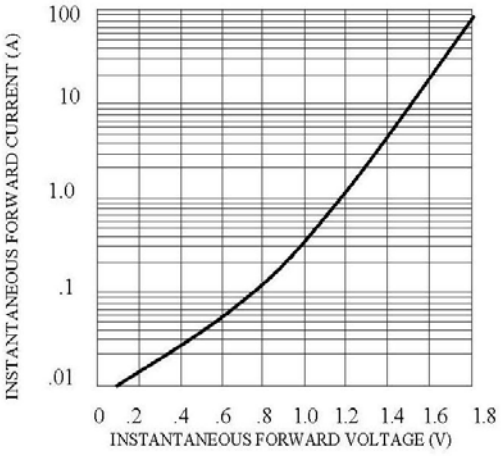


FIG. 4 -TYPICAL REVERSE CHARACTERISTICS

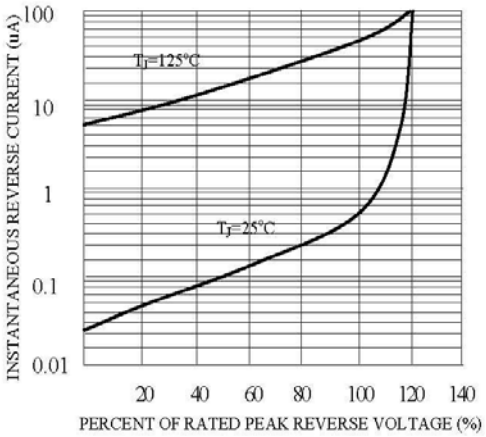


FIG. 5 -TYPICAL JUNCTION CAPACITANCE