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3A CLAMPER/DAMPER RECTIFIER

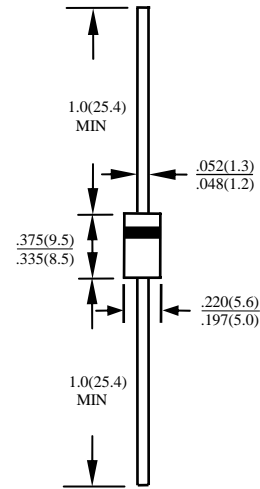
RQ3F

FEATURES

- PLASTIC PACKAGE HAS UNDERWRITERS LABORATORY FLAMMABILITY CLASSIFICATION 94V-0
- ULTRA FAST RECOVERY TIMES FOR HIGH EFFICIENCY
- LOW FORWARD VOLTAGE, HIGH CURRENT CAPABILITY
- LOW LEAKAGE
- HIGH SURGE CAPABILITY
- HIGH TEMPERATURE SOLDERING GUARANTEED:
260°C 0.375"(9.5mm) LEAD LENGTHS FOR 10 SECONDS AT 5 LBS. (2.3 KG) TENSION.

MECHANICAL DATA

- CASE: JEDEC DO-201AD, MOLDED PLASTIC, DIMENSIONS IN INCHES AND (MILLIMETERS)
- TERMINALS: AXIAL LEADS SOLDERABLE PER MIL-STD-202, METHOD 208
- POLARITY: COLOR BAND DENOTES CATHODE END
- MOUNTING POSITION: ANY
- WEIGHT: 1.2 GRAM



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	RQ3F	UNITS
MAXIMUM RECURRENT PEAK REVERSE VOLTAGE	V_{RRM}	1500	V
MAXIMUM RMS VOLTAGE	V_{RMS}	1050	V
MAXIMUM DC BLOCKING VOLTAGE	V_{DC}	1500	V
MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT 0.375" (9.5mm) LEAD LENGTH AT $T_A=50^\circ\text{C}$	I_O	3.0	A
PEAK FORWARD SURGE CURRENT 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD	I_{FSM}	50	A
TYPICAL JUNCTION CAPACITANCE (NOTE 1)	C_J	150	PF
TYPICAL THERMAL RESISTANCE (NOTE 2)	$R_{\theta JL}$	10	$^\circ\text{C/W}$
STORAGE TEMPERATURE RANGE	T_{STG}	-55 TO + 150	$^\circ\text{C}$
OPERATING TEMPERATURE RANGE	T_{OP}	-55 TO + 150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (AT $T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

CHARACTERISTICS	SYMBOL	RQ3F	UNITS
MAXIMUM FORWARD VOLTAGE AT 4.0A	V_F	1.2	V
MAXIMUM REVERSE CURRENT AT $T_A=25^\circ$	I_R	50	μA
MAXIMUM REVERSE CURRENT AT $T_A=100^\circ$	I_R	500	μA
MAXIMUM REVERSE RECOVERY TIME (NOTE 3)	T_{RR}	400	nS

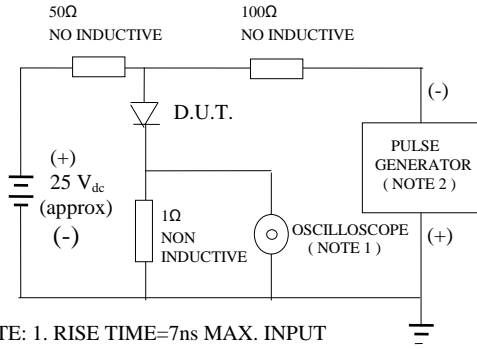
NOTE: 1. MEASURED AT 1 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS

2. BOTH LEADS ATTACHED TO HEAT SINK 63.5x63.5x1t(mm) COPPER PLATE AT LEAD LENGTH 5mm

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

RATINGS AND CHARACTERISTIC CURVE RQ3F

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



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

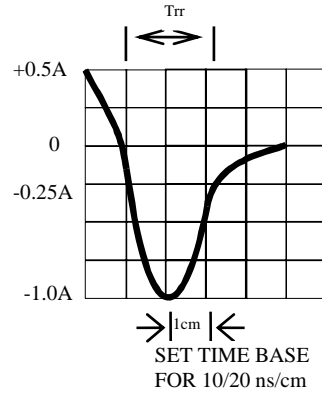


Fig. 2-MAXIMUM CURRENT RATING EFFECT OF COPPER AREA. RESISTIVE/INDUCTIVE LOAD.

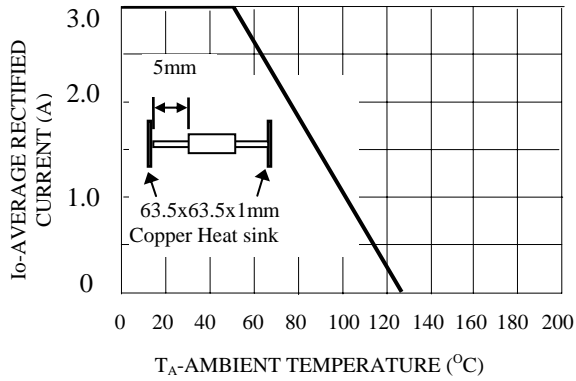


Fig. 3-MAXIMUM FORWARD SURGE NUMBER OF CYCLES

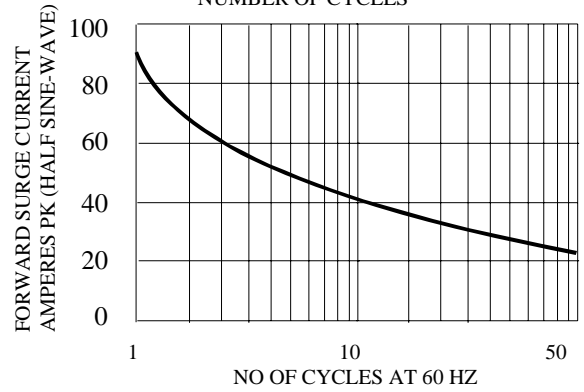


FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

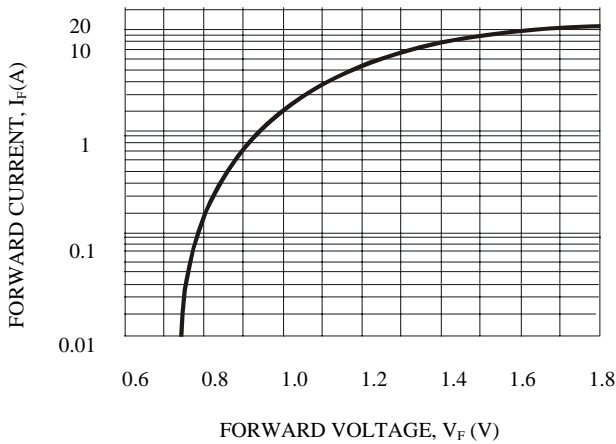


FIG. 5- TYPICAL REVERSE CHARACTERISTICS

