SF51 THRU SF58

SUPER FAST RECOVERY SILICON RECTIFIER

Reverse Voltage - 50 to 600 Volts Forward Current - 5.0 Ampere

FEATURES

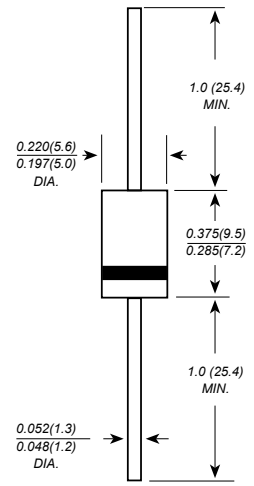
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Super fast switching for high efficiency
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed: 250°C/10 seconds,0.375″(9.5mm) lead length, 5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: JEDEC DO-201AD molded plastic body
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight:0.04 ounce, 1.10 grams

RoHS Compliant

DO-201AD



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 current derate by 20%.

Characteristic	SYMBOLS	SF51	SF52	SF53	SF54	SF55	SF56	SF58	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	600	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	420	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	V
Maximum average forward rectified current 0.375″(9.5mm) lead length at T_A=55°C	$I_{(AV)}$	5.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150.0							A
Maximum instantaneous forward voltage at 5.0A	V_F	0.95				1.25		1.7	V
Maximum DC reverse current T_A=25°C at rated DC blocking voltage T_A=100°C	I_R	10.0 50.0							μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	35							ns
Typical junction capacitance (NOTE 2)	C_J	100.0				50.0			pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	30.0							°C/W
Operating junction and storage temperature range	T_J,T_{STG}	-65 to +150							°C

Note:1.Reverse recovery condition I_F=0.5A,I_R=1.0A,Irr=0.25A
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3.Thermal resistance from junction to ambient at 0.375″(9.5mm)lead length,P.C.B. mounted

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RATINGS AND CHARACTERISTIC CURVES

FIG. 1- FORWARD CURRENT DERATING CURVE

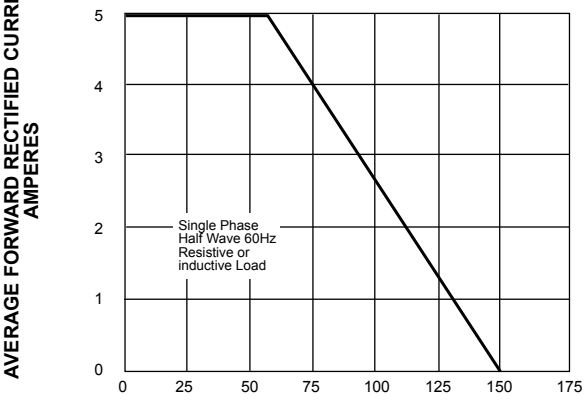


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

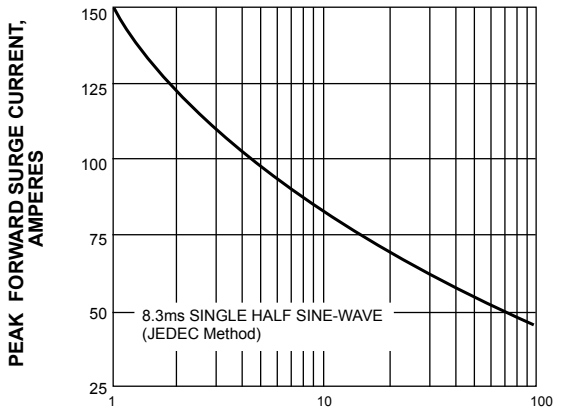


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

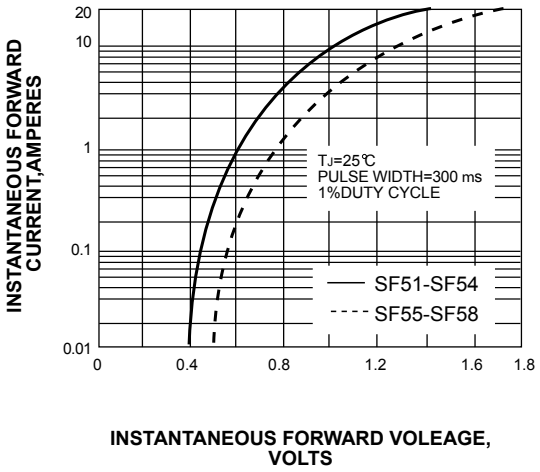


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

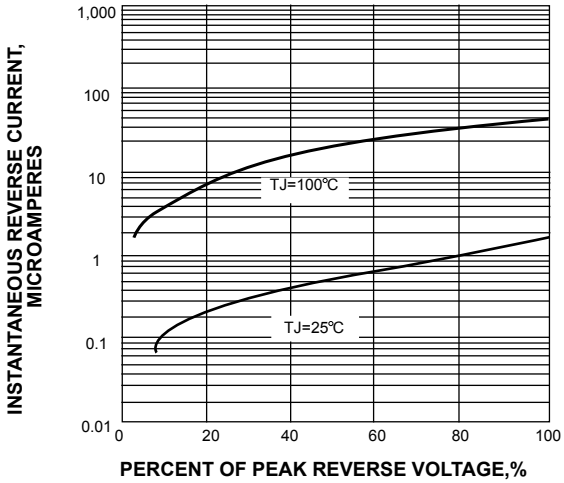


FIG. 5-TYPICAL JUNCTION CAPACITANCE

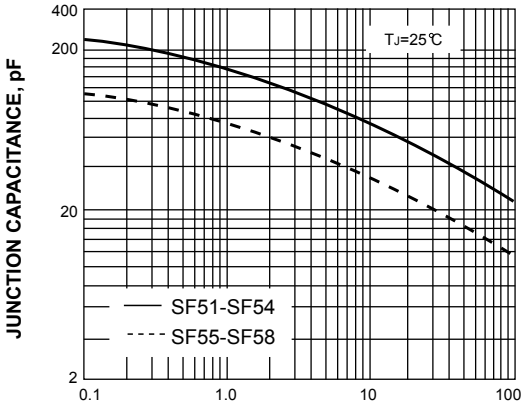


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

