III. Fast / Ultra Fast / Super Fast Recovery Rectifier

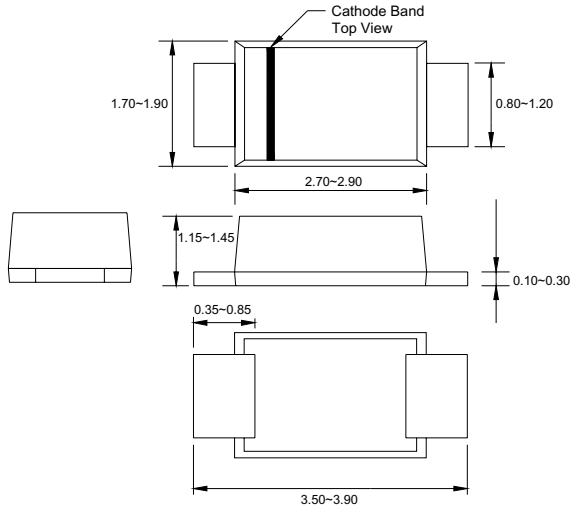
1.0A Surface Mount Super Fast Recovery Rectifier
DES1A~DES1J (Package: SOD-123FL)

FEATURES

- Low profile space
- Glass passivated chip junctions
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering : 250℃/10 seconds at terminals

MECHANICAL DATA

- Case : JEDEC SOD-123FL molded plastic body over passivated chip
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Weight : 0.020 grams



Case: SOD-123FL
Dimensions in millimetres

Ratings & Electrical Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified.
Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

Characteristics	Symbol	DES1A	DES1B	DES1C	DES1D	DES1E	DES1G	DES1J	Units
	Marking Code	EA	EB	EC	ED	EE	EG	EJ	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	600	Volts
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	420	Volts
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	Volts
Maximum average forward rectified current	Io	1.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	25.0							Amps
Maximum instantaneous forward voltage at 1.0 A	V_F	0.95				1.25		1.70	Volts
Maximum DC reverse current Ta = 25℃ at rated DC blocking voltage Ta = 100℃	I_R	5.0 100.0							μA
Maximum reverse recovery time (Note 1)	T_{rr}	35							ns
Typical junction capacitance (Note 2)	Cj	10							PF
Typical thermal resistance (Note 3)	Rth-JA	85							℃/W
Operating junction and storage temperature range	Tj, Tstg	-55 to +150							℃

Notes:
1. Measured with I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
2. Measured at 1MHz and applied reverse voltage of 4.0V DC.
3. PCB mounted on 0.2x0.2” (5.0x5.0mm) copper pad area.

Ratings and Characteristic Curves of DES1A~DES1J

FIG. 1- FORWARD CURRENT DERATING CURVE

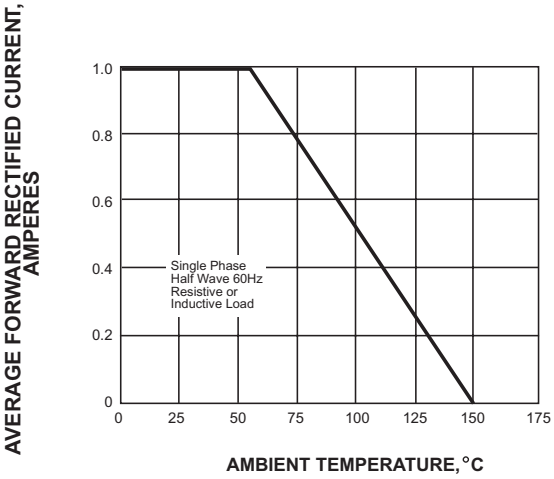


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

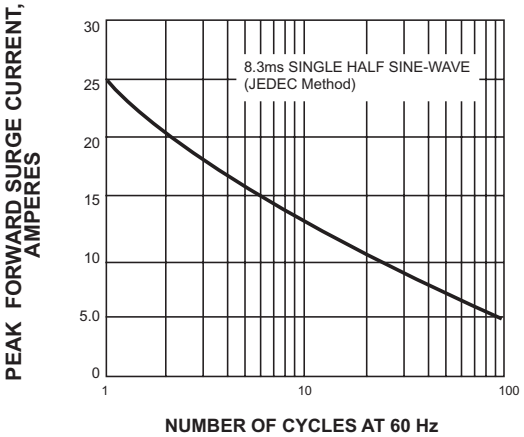


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

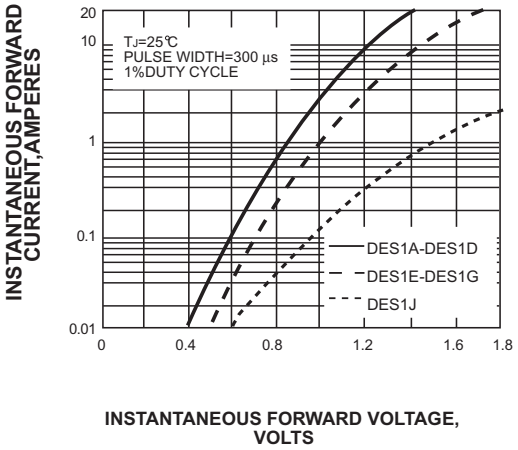


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

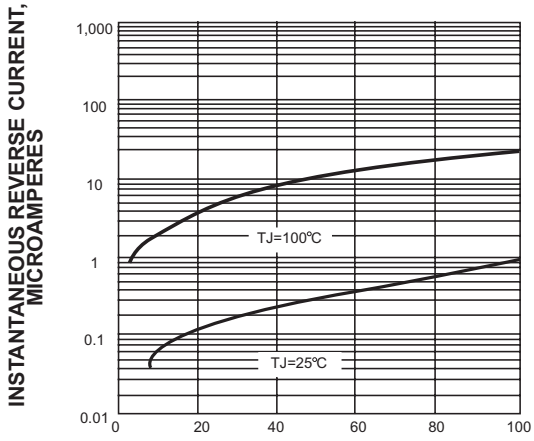


FIG. 5-TYPICAL JUNCTION CAPACITANCE

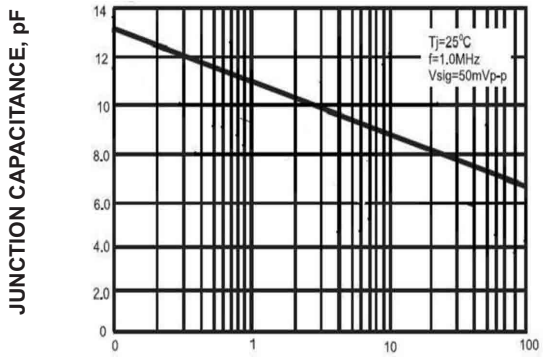


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE