

III. Fast / Ultra Fast / Super Fast Recovery Rectifier

1.0A Surface Mount Super Fast Recovery Rectifier

DES1A~DES1J

(Package: SOD-123FL)

<p><u>FEATURES</u></p> <ul style="list-style-type: none"> • Low profile space • Glass passivated chip junctions • Low forward voltage drop • Low leakage current • High forward surge capability • High temperature soldering : 250°C/10 seconds at terminals <p><u>MECHANICAL DATA</u></p> <ul style="list-style-type: none"> • 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 	<p>Case: SOD-123FL Dimensions in millimetres</p>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------

Ratings & Electrical Characteristics

Ratings at 25°C 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	I_o	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 at rated DC blocking voltage	I_R				5.0 100.0				μA
Maximum reverse recovery time (Note 1)	T_{rr}				35				ns
Typical junction capacitance (Note 2)	C_j				10				PF
Typical thermal resistance (Note 3)	R_{th-JA}				85				°C/W
Operating junction and storage temperature range	T_J, T_{stg}				-55 to +150				°C

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

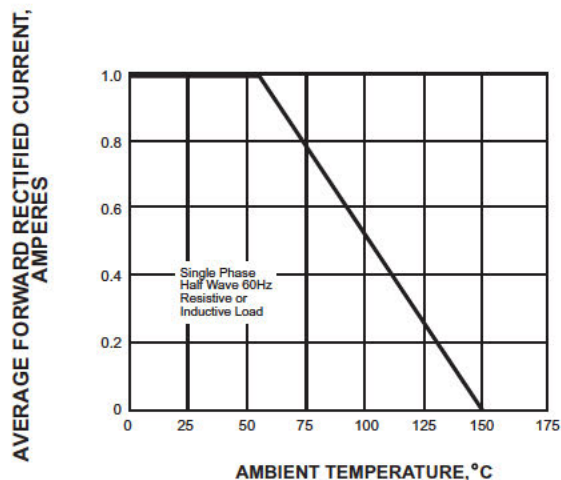


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

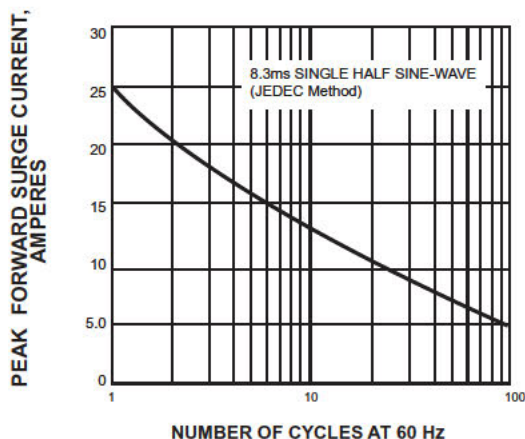


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

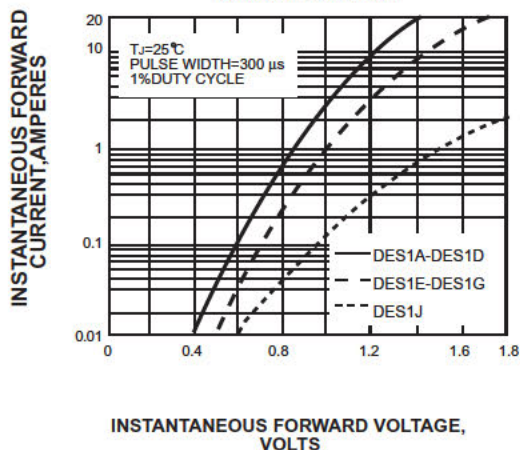


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

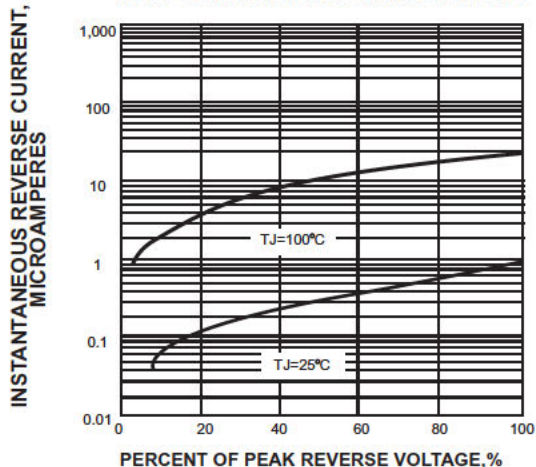


FIG. 5-TYPICAL JUNCTION CAPACITANCE

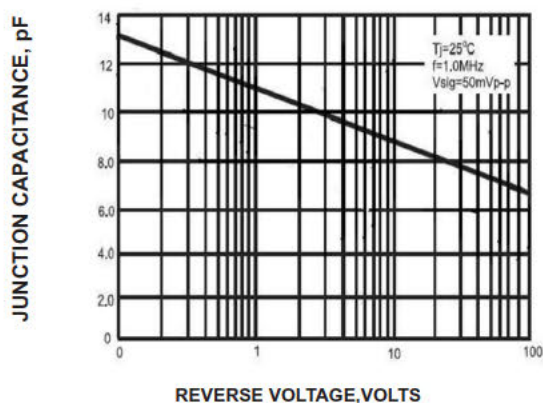


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

