

III. Fast / Ultra Fast / Super Fast Recovery Rectifier

1.0A Surface Mount Fast Recovery Rectifier

DRS1A~DRS1M

(Package: SOD-123FL)

<p>FEATURES</p> <ul style="list-style-type: none"> • Glass passivated device • Ideal for surface mounted applications • Low reverse leakage • Metallurgically bonded construction • High temperature soldering guaranteed : 250 /10 seconds, 0.375" (9.5mm) lead length, 5lbs. (2.3kgs) tension <p>MECHANICAL DATA</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 • Mounting position : Any • Weight : 0.020 grams 	<p>Case: SOD-123FL Dimensions in millimetres</p>
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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	DRS1A	DRS1B	DRS1D	DRS1G	DRS1J	DRS1K	DRS1M	Units
	Marking Code	F1	F2	F3	F4	F5	F6	F7	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current at $T_a = 65$ (Note 1)	I_o	1.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load. (JEDEC Method) $T_L = 25$	I_{FSM}	20.0							Amps
Maximum instantaneous forward voltage at 1.0 A	V_F	1.3							Volts
Maximum DC reverse current $T_a = 25$ at rated DC blocking voltage $T_a = 125$	I_R	5.0 50.0							μA
Maximum reverse recovery time (Note 2)	T_{rr}	150				250	500		ns
Typical junction capacitance (Note 3)	C_j	4							PF
Typical thermal resistance (Note 4)	R_{th-JA}	180							/W
Operating junction and storage temperature range	T_j, T_{stg}	-55 to +150							

Notes:

1. Averaged over any 20ms period.
2. Measured with $I_F=0.5A$, $I_R=1.0A$, $I_{RR}=0.25A$
3. Measured at 1MHz and applied reverse voltage of 4.0V DC.
4. Thermal resistance junction to ambient, 6.0mm² copper pads to each terminal.

Ratings and Characteristic Curves of DRS1A~DRS1M

FIG.1 – TYPICAL FORWARD CHARACTERISTIC

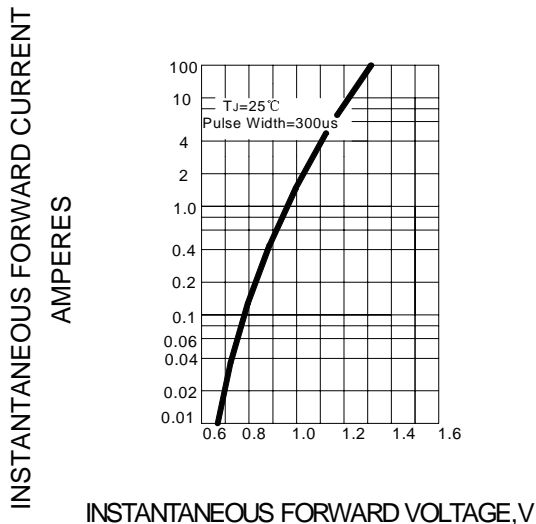


FIG.2 – TYPICAL JUNCTION CAPACITANCE

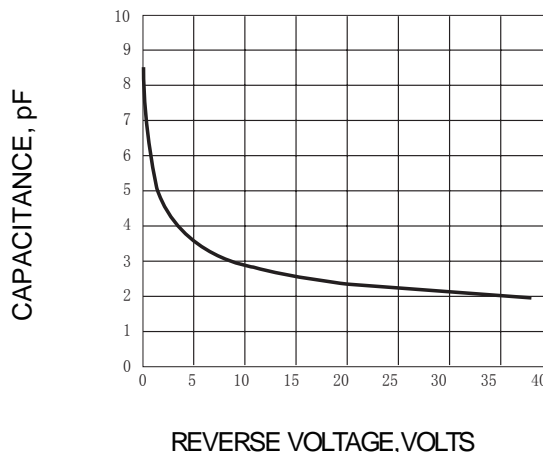


FIG.3 – TYPICAL INSTANTANEOUS REVERSE CHARACTERISTICS

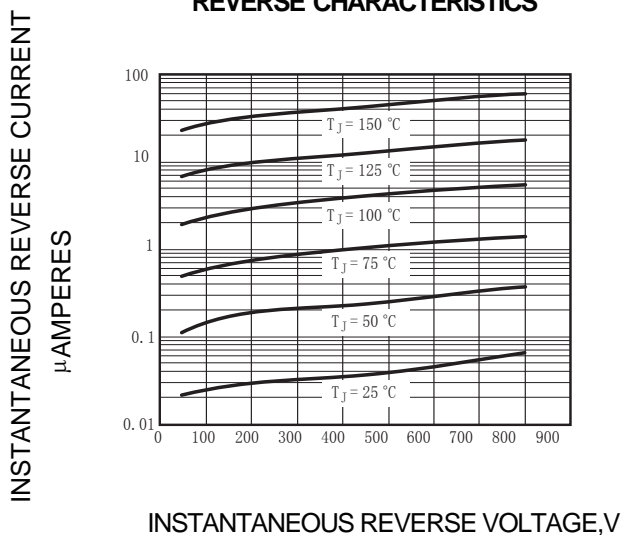


FIG.4 – FORWARD DERATING CURVE

