

ESM101-ESM106

Super Fast Siltcon Rectifier

VOLTAGE RANGE 50 to 400 Volts

CURRENT 1.0 Ampere



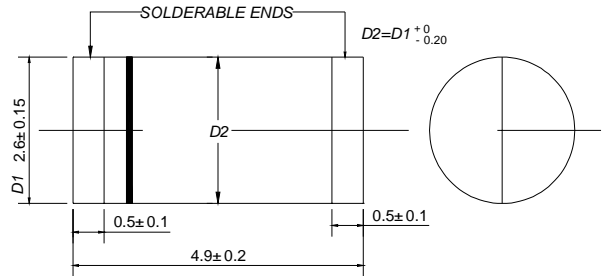
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Features

- * Fast switching
- * Glass passivated device
- * Ideal for surface mounted applications
- * Low leakage current
- * Metallurgically bonded construction
- * Mounting position: Any
- * Weight: 0.015 gram

Mechanical Data

* Epoxy : Device has UL flammability classification 94V-0



Dimensions in millimeters

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%.

MAXIMUM RATINGS (At $T_A = 25^\circ\text{C}$ unless otherwise noted)

RATINGS	SYMBOL	ESM101	ESM102	ESM103	ESM104	ESM105	ESM106	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	Volts
Maximum RMS Volts	V_{RMS}	35	70	105	140	210	280	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	Volts
Maximum Average Forward Current at $T_A = 55^\circ\text{C}$	I_o	1.0						Amps
Peak Forward Surge Current, IFM (surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	30						Amps
Typical Junction Capacitance (Note 2)	C_J	15				10		pF
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to + 175						$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (At $T_A = 25^\circ\text{C}$ unless otherwise noted)

CHARACTERISTICS	SYMBOL	ESM101	ESM102	ESM103	ESM104	ESM105	ESM106	UNITS
Maximum Forward Voltage at 1.0A DC	V_F	0.95				1.25		Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	5.0						uAmps
@ $T_A = 25^\circ\text{C}$								
	t_{rr}	100						nSec
@ $T_A = 125^\circ\text{C}$								
Maximum Reverse Recovery Time (Note 1)		35						nSec

NOTES : 1. Test Conditions: $I_F=0.5A$, $I_R=-1.0A$, $I_{RR}=-0.25A$.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES (ESM101 THRU ESM106)

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

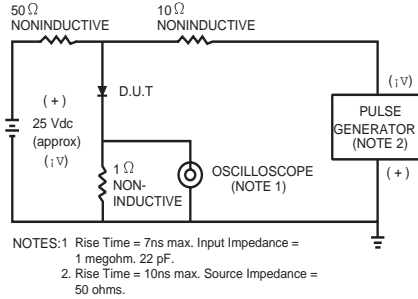


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

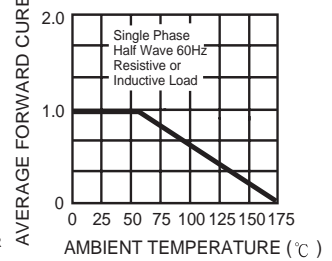


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

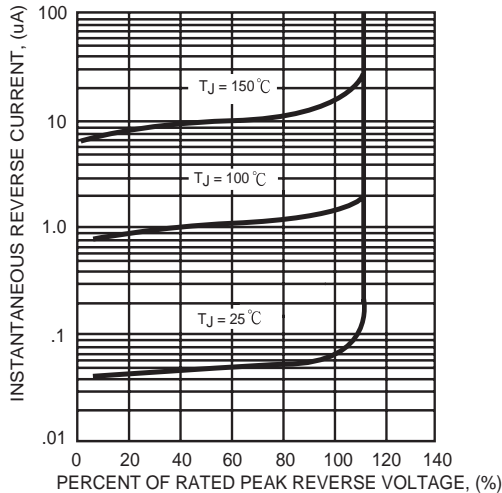


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

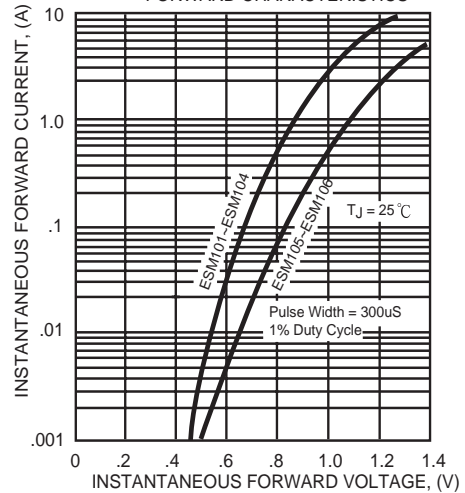


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

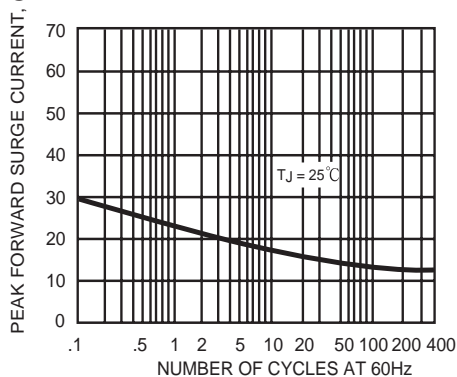


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

