

ESM101 THRU ESM106

SURFACE MOUNT SUPERFAST RECOVERY RECTIFIER



康比電子
HORNBY ELECTRONIC

REVERSE VOLTAGE: 50 to 400 VOLTS

FORWARD CURRENT: 1.0 AMPERE

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- For surface mounted applications
- High temperature metallurgically bonded construction
- Superfast recovery times
- Cavity-free glass passivated junction
- Capable of meeting environmental standards of MIL-S-19500
- High temperature soldering : 250°C /10 seconds at terminals

MECHANICAL DATA

Case: Molded plastic, MELF

Epoxy: UL 94V-O rate flame retardant

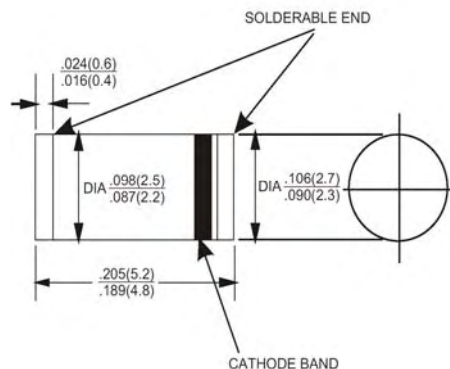
Terminals: Solder plated, solderable per MIL-STD-750, method 208 guaranteed

Polarity: Color band denotes cathode end

Mounting position: Any

Weight: 0.005 ounce, 0.12 gram

MELF



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, derate current by 20%.

	Symbols	ESM101	ESM102	ESM103	ESM104	ESM105	ESM106	Units
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	Volts
Maximum RMS Voltage	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 Rectified Current at T _A =55℃	I _(AV)	1.0						Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I _{FSM}	30						Amp
Maximum Forward Voltage at 1.0A and T _A =25℃	V _F	0.95				1.25		Volts
Maximum Reverse Current at T _A =25℃ at Rated DC Blocking Voltage T _A =125℃	I _R	5.0 100						μAmp
Typical Junction Capacitance (Note 1)	C _J	15				10		pF
Typical Thermal Resistance (Note 2)	R _{θJA}	85						nS
Typical Thermal Resistance (Note 3)	R _{θJT}	35						
Maximum Reverse Recovery Time (Note 4)	T _{RR}	35						℃/W
Operating and Storage Temperature Range	T _J , T _{stg}	-55 to +175						℃

NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal resistance from junction to ambient, 0.24 x 0.24" (6.0 x 6.0mm) copper pads to each terminal

3- Thermal resistance from junction to terminal, 0.24 x 0.24" (6.0 x 6.0mm) copper pads to each terminal

4- Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

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RATINGS AND CHARACTERISTIC CURVES

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

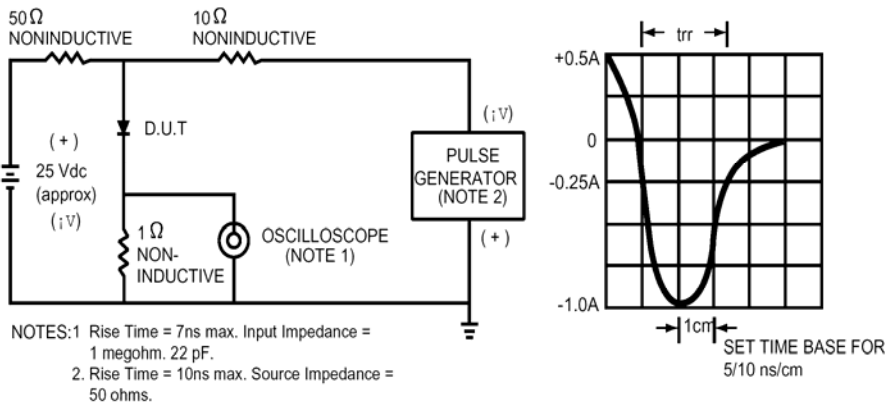


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

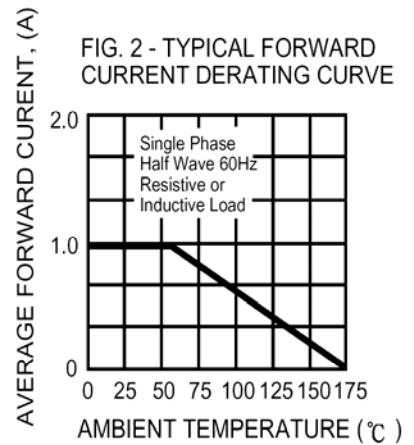


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

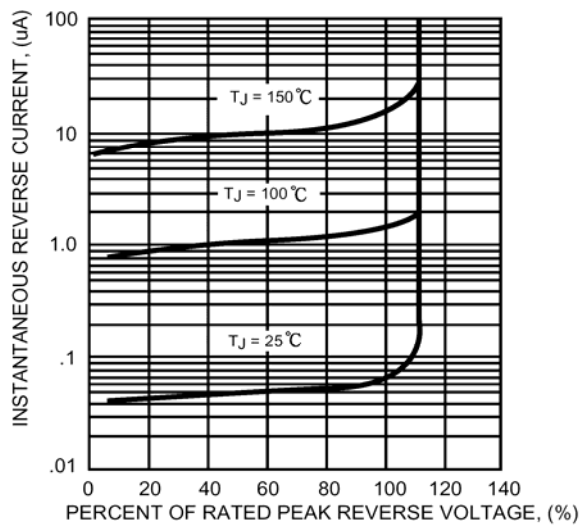


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

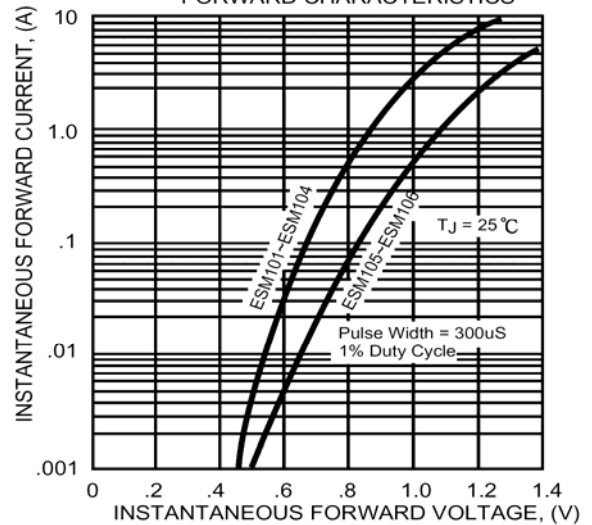


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

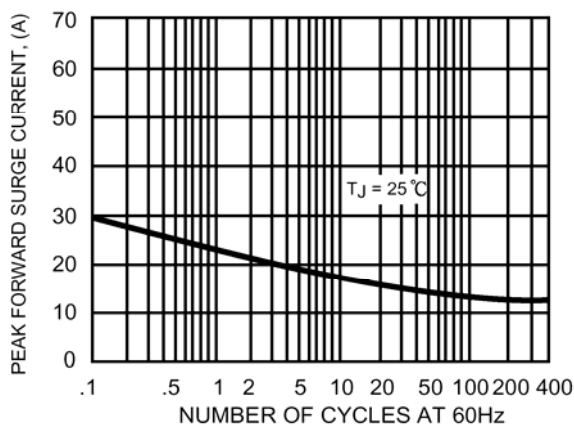


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

