

ESM101 THRU ESM106

TECHNICAL SPECIFICATIONS OF SURFACE MOUNT SUPER FAST RECTIFIER



VOLTAGE RANGE - 50 to 400 Volts

CURRENT - 1.0 Ampere

FEATURES

- * Ideal for surface mounted applications
- * Low leakage current
- * Fast switching for high efficiency
- * Glass passivated junction

MECHANICAL DATA

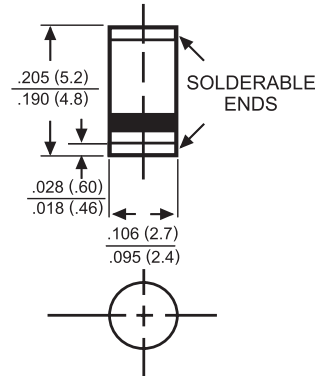
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Terminals: Solder plated solderable per MIL-STD-202E, Method 208 guaranteed
- * Polarity: Color band denotes cathode end
- * Mounting position: Any
- * Weight: 0.12 gram

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%.



SM-1(DO-213AB)



Dimensions in inches and (millimeters)

| | 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°C | I _O | 1.0 | | | | | | Amps |
| Peak Forward Surge Current, I _{FM} (surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | I _{FSM} | 30 | | | | | | Amps |
| 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 | @T _A = 25°C | | | | | | uAmps |
| | | @T _A = 125°C | | | | | | |
| Maximum Reverse Recovery Time (Note 1) | t _{rr} | 35 | | | | | | nSec |
| Typical Junction Capacitance (Note 2) | C _J | 15 | | | | | | pF |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to + 175 | | | | | | °C |

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

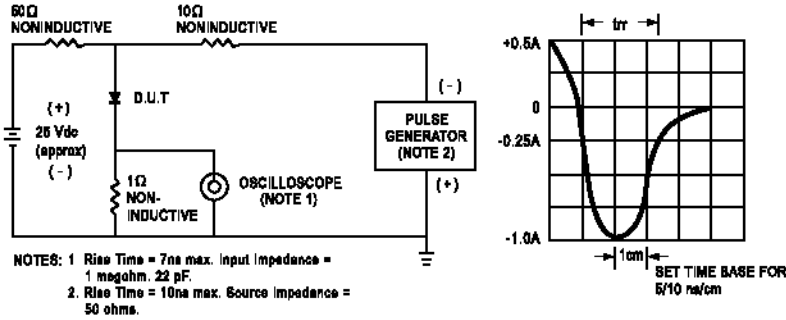


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

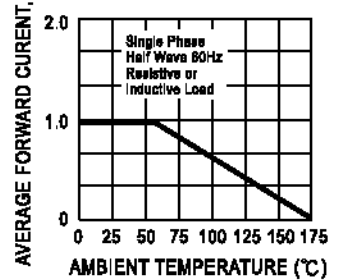


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

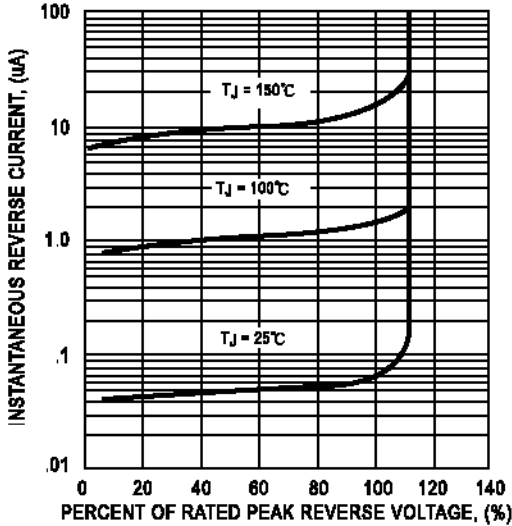


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

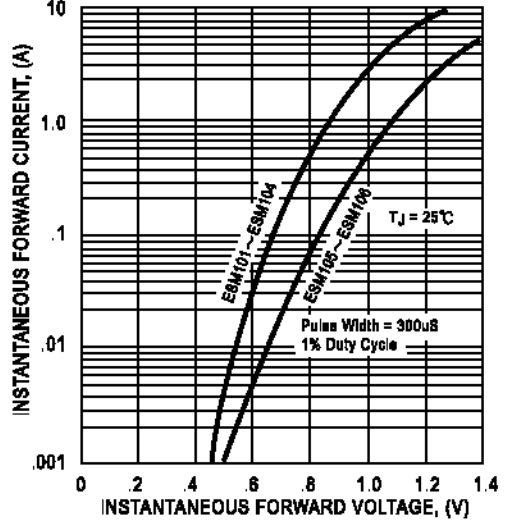


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

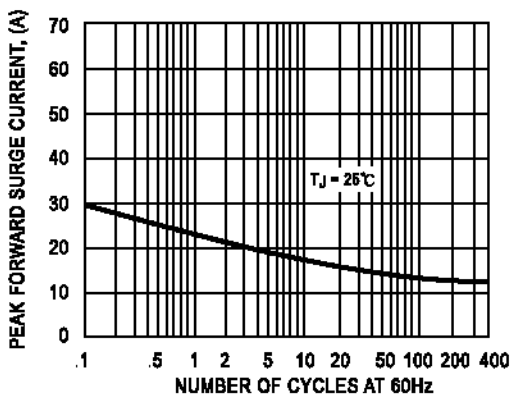


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

