



HS1A THRU HS1M

1.0 AMP. High Efficient Surface Mount Rectifiers



Voltage Range
50 to 1000 Volts
Current
1.0 Ampere

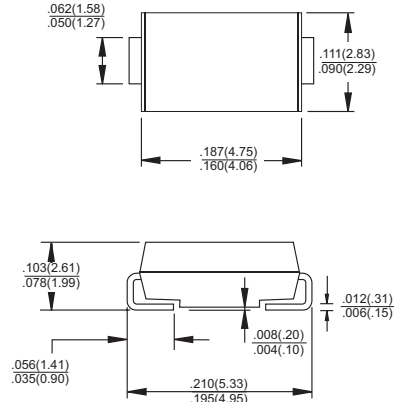
Features

- ✧ Glass passivated junction chip.
- ✧ For surface mounted application
- ✧ Low forward voltage drop
- ✧ Low profile package
- ✧ Built-in stain relief, ideal for automatic placement
- ✧ Fast switching for high efficiency
- ✧ High temperature soldering:
260°C/10 seconds at terminals
- ✧ Plastic material used carries Underwriters
Laboratory Classification 94V-0

Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Terminals: Solder plated
- ✧ Polarity: Indicated by cathode band
- ✧ Packing: 12mm tape per E1A STD RS-481
- ✧ Weight: 0.064 gram

SMA/DO-214AC



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating 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%

| Type Number | Symbol | HS 1A | HS 1B | HS 1D | HS 1F | HS 1G | HS 1J | HS 1K | HS 1M | Units | |
|---|------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 300 | 400 | 600 | 800 | 1000 | V | |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 210 | 280 | 420 | 560 | 700 | V | |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 300 | 400 | 600 | 800 | 1000 | V | |
| Maximum Average Forward Rectified Current See Fig.2 | $I_{(AV)}$ | 1.0 | | | | | | | | A | |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 30 | | | | | | | | A | |
| Maximum Instantaneous Forward Voltage @ 1.0A | V_F | 1.0 | | | 1.3 | | 1.7 | | | V | |
| Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=100^\circ\text{C}$ | I_R | 5.0 | | | | 100 | | | | | uA uA |
| Maximum Reverse Recovery Time (Note 1) | T_{rr} | 50 | | | | 75 | | | | nS | |
| Typical Junction Capacitance (Note 2) | C_j | 20 | | | | 15 | | | | pF | |
| Operating Temperature Range | T_J | -55 to +150 | | | | | | | | °C | |
| Storage Temperature Range | T_{STG} | -55 to +150 | | | | | | | | °C | |

Notes: 1. Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=1.0A$, $I_{RR}=0.25A$

2. Measured at 1 MHz and Applied $V_R=4.0$ Volts

3. Mounted on P.C.B. with 0.2"x0.2" (5 x 5 mm) Copper Pad Areas.

RATINGS AND CHARACTERISTIC CURVES (HS1A THRU HS1M)

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

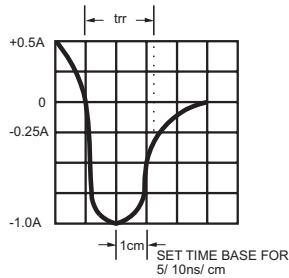
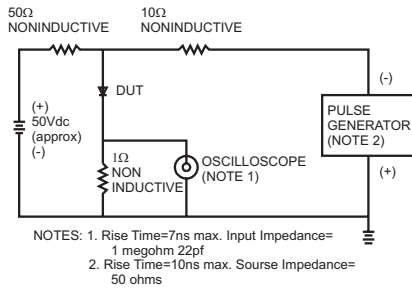


FIG.2- MAXIMUM AVERAGE FORWARD CURRENT DERATING

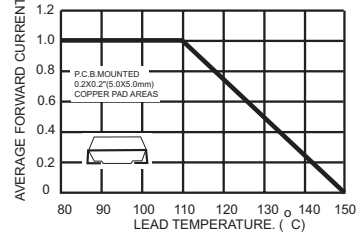


FIG.3- TYPICAL REVERSE CHARACTERISTICS

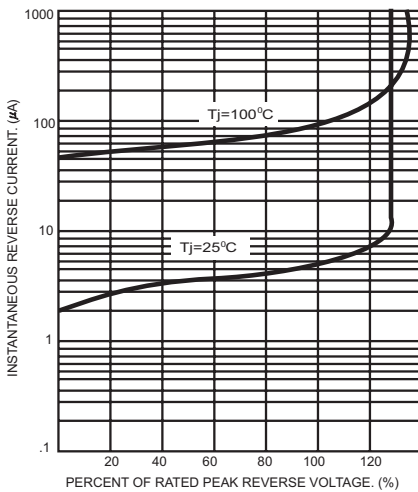


FIG.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

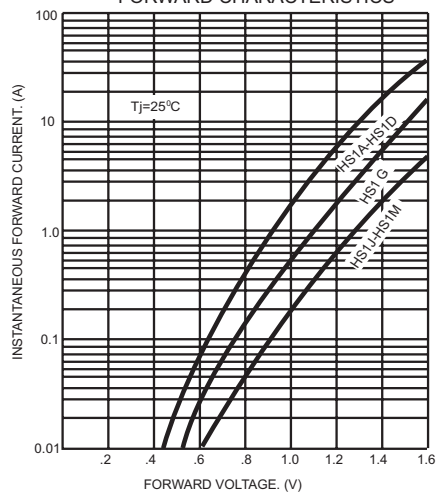


FIG.5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

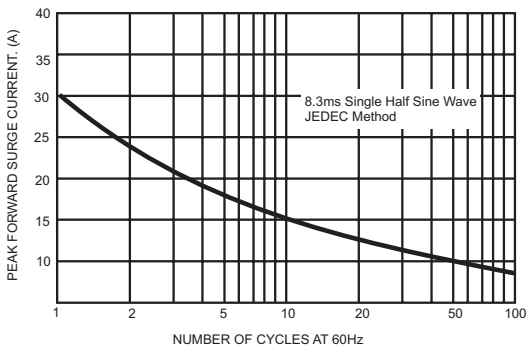


FIG.6- TYPICAL JUNCTION CAPACITANCE

