



# HS5A THRU HS5M

## 5.0 AMPS. High Efficient Surface Mount Rectifiers



Voltage Range  
50 to 1000 Volts  
Current  
5.0 Amperes

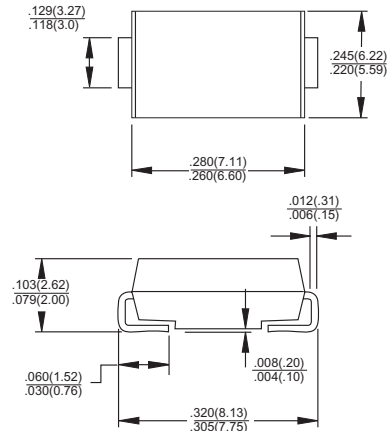
### Features

- ✧ 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-O

### Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Terminals: Solder plated
- ✧ Polarity: Indicated by cathode band
- ✧ Packing: 16mm tape per E1A STD RS-481
- ✧ Weight: 0.21 gram

### SMC/DO-214AB



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 5A       | HS 5B | HS 5D | HS 5F | HS 5G | HS 5J | HS 5K | HS 5M | 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   | $I_{(AV)}$      | 5.0         |       |       |       |       |       |       |       | A                              |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)         | $I_{FSM}$       | 150         |       |       |       |       |       |       |       | A                              |
| Maximum Instantaneous Forward Voltage @ 5.0A   | $V_F$           | 1.0         |       | 1.3   |       | 1.7   |       |       | V     |                                |
| Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=100^\circ\text{C}$ | $I_R$           | 10.0<br>200 |       |       |       |       |       |       |       | $\mu\text{A}$<br>$\mu\text{A}$ |
| Maximum Reverse Recovery Time (Note 1)   | $T_{rr}$        | 50          |       |       |       | 75    |       |       | nS    |                                |
| Typical Junction Capacitance (Note 2)  | $C_j$           | 80          |       |       |       | 50    |       |       | pF    |                                |
| Maximum Thermal Resistance (Note 3)  | $R_{\theta JA}$ | 60          |       |       |       |       |       |       |       | $^\circ\text{C}/\text{W}$      |
| Operating Temperature Range  | $T_J$           | -55 to +150 |       |       |       |       |       |       |       | $^\circ\text{C}$               |
| Storage Temperature Range  | $T_{STG}$       | -55 to +150 |       |       |       |       |       |       |       | $^\circ\text{C}$               |

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

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

3. Mounted on P.C.B. with 0.6"x0.6" ( 16 x 16 mm ) Copper Pad Areas.

## RATINGS AND CHARACTERISTIC CURVES (HS5A THRU HS5M)

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

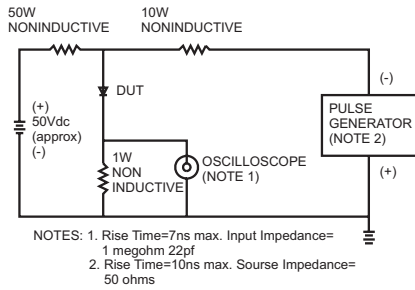


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

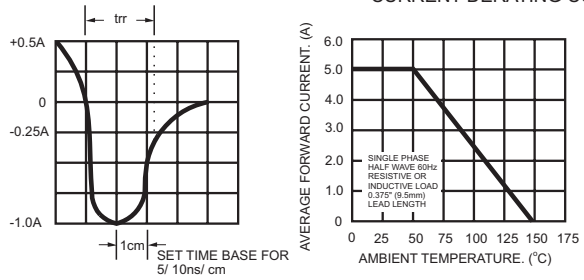


FIG.3- TYPICAL REVERSE CHARACTERISTICS

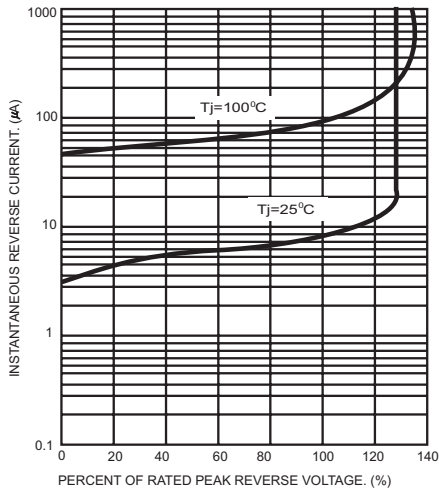


FIG.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

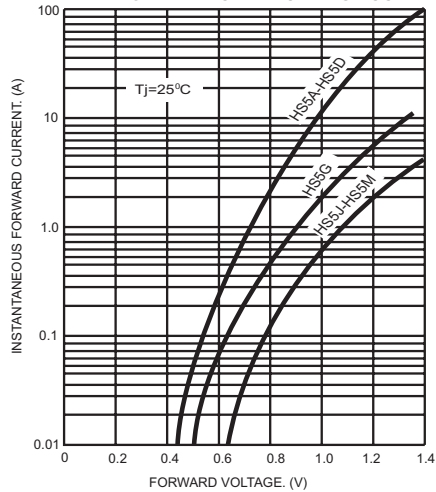


FIG.5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

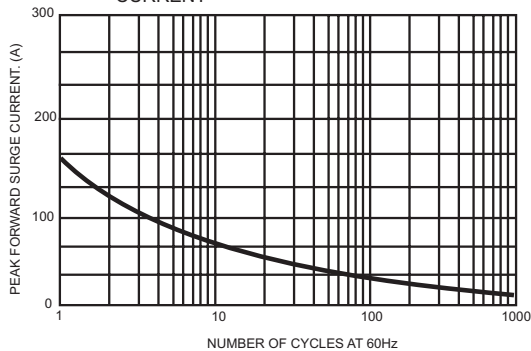


FIG.6- TYPICAL JUNCTION CAPACITANCE

