



# HS3A thru HS3M

High Efficient Surface Mount Rectifiers  
Reverse Voltage 50 to 1000 Volts Forward Current 3.0 Amperes

## Features

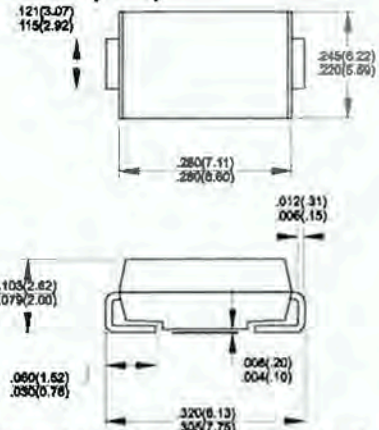
- ◆ Glass passivated junction chip.
- ◆ For surface mounted application
- ◆ Low forward voltage drop
- ◆ Low profile package
- ◆ Built-in stain relief, ideal for automatic placement
- ◆ Fast switching for high efficiency
- ◆ High temperature soldering:  
250°C/10 seconds at terminals
- ◆ Plastic material used carries Underwriters Laboratory  
Classification 94V-0

## Mechanical Data

- ◆ Cases: Molded plastic
- ◆ Terminals: Solder plated
- ◆ Polarity: Indicated by cathode band
- ◆ Weight: 0.009 ounce, 0.21 gram



DO-214AB (SMC)



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%

Parameter	Symbols	HS3A	HS3B	HS3D	HS3F	HS3G	HS3J	HS3K	HS3M	Units	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	300	400	600	800	1000	Volts	
Maximum RMS voltage	$V_{RMS}$	35	70	140	210	280	420	560	700	Volts	
Maximum DC blocking voltage	$V_{DC}$	50	100	200	300	400	600	800	1000	Volts	
Maximum average forward rectified current See Fig 2	$I_{AV}$	3.0								Amps	
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	150.0								Amps	
Maximum instantaneous forward voltage @ 3.0A	$V_f$	1.0			1.3		1.7			Volts	
Maximum DC reverse current @ $T_j=25^\circ\text{C}$ at rated DC blocking voltage @ $T_j=100^\circ\text{C}$	$I_R$					10.0					$\mu\text{A}$ $\mu\text{A}$
Maximum reverse recovery time (Note 1)	$t_{rr}$	50				75				nS	
Typical junction capacitance (Note 2)	$C_j$	80				50				pF	
Operating junction temperature range	$T_j$	-55 to +150								°C	
Storage temperature range	$T_{STG}$	-55 to +150								°C	

Notes: 1. Reverse Recovery Test Conditions:  $I_f=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$   
2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.



## RATINGS AND CHARACTERISTIC CURVES

FIG 1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

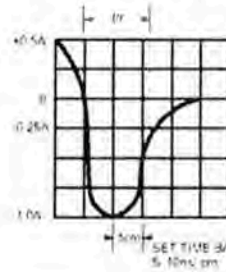
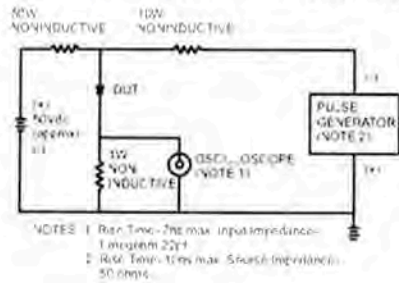


FIG 2- MAXIMUM FORWARD CURRENT DERATING CURVE

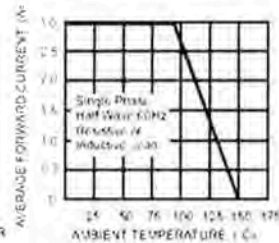


FIG.3- TYPICAL REVERSE CHARACTERISTICS

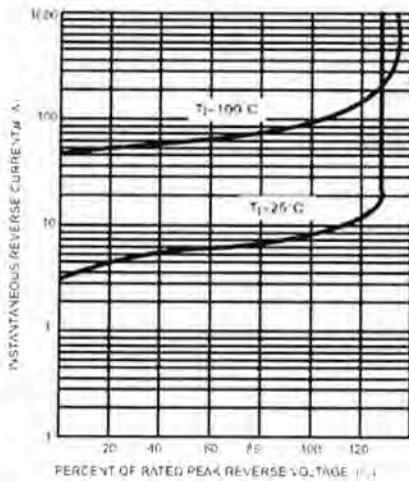


FIG 4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

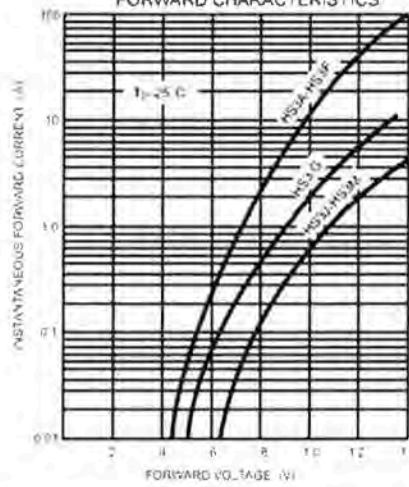


FIG 5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

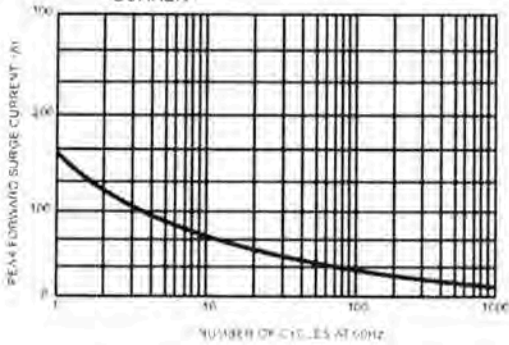


FIG.6- TYPICAL JUNCTION CAPACITANCE

