

## SURFACE MOUNT RECTIFIERS

## HS1A--HS1M

### FEATURES

- Low cost
- Low leakage
- Low forward voltage drop
- High current capability
- Easily cleaned with Alcohol, Isopropanol and similar solvents
- The plastic material carries U/L recognition 94V-0



### MECHANICAL DATA

- Case: JEDEC DO-214AC, molded plastic
- Terminals: Solderable per MIL- STD-202, Method 208
- Weight: 0.002 ounces, 0.064 gram

### Maximum Ratings (@TA = 25°C unless otherwise specified)

Characteristic	Symbol	HS1A	HS1B	HS1D	HS1G	HS1J	HS1K	HS1M	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified current @ $T_L=90^\circ\text{C}$	$I_{(AV)}$	1.0							A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	$I_{FSM}$	30							A

### Thermal Characteristics

Characteristic	Symbol	HS1A	HS1B	HS1D	HS1G	HS1J	HS1K	HS1M	UNITS
Typical junction capacitance (Note2)	$C_J$	15				12			pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	15							$^\circ\text{C}/\text{W}$
Operating temperature range	$T_J$	- 55 ---- + 150							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 55 ---- + 150							$^\circ\text{C}$

### Electrical Characteristics (@TA = 25°C unless otherwise specified)

Characteristic	Symbol	HS1A	HS1B	HS1D	HS1G	HS1J	HS1K	HS1M	UNITS	
Maximum instantaneous forward voltage at 1.0 A	$V_F$	1.0			1.3	1.7			V	
Maximum DC reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$	$I_R$	10				100				$\mu\text{A}$
Typical reverse recovery time (Note1)	$t_{rr}$	50				75				ns

NOTE: 1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .

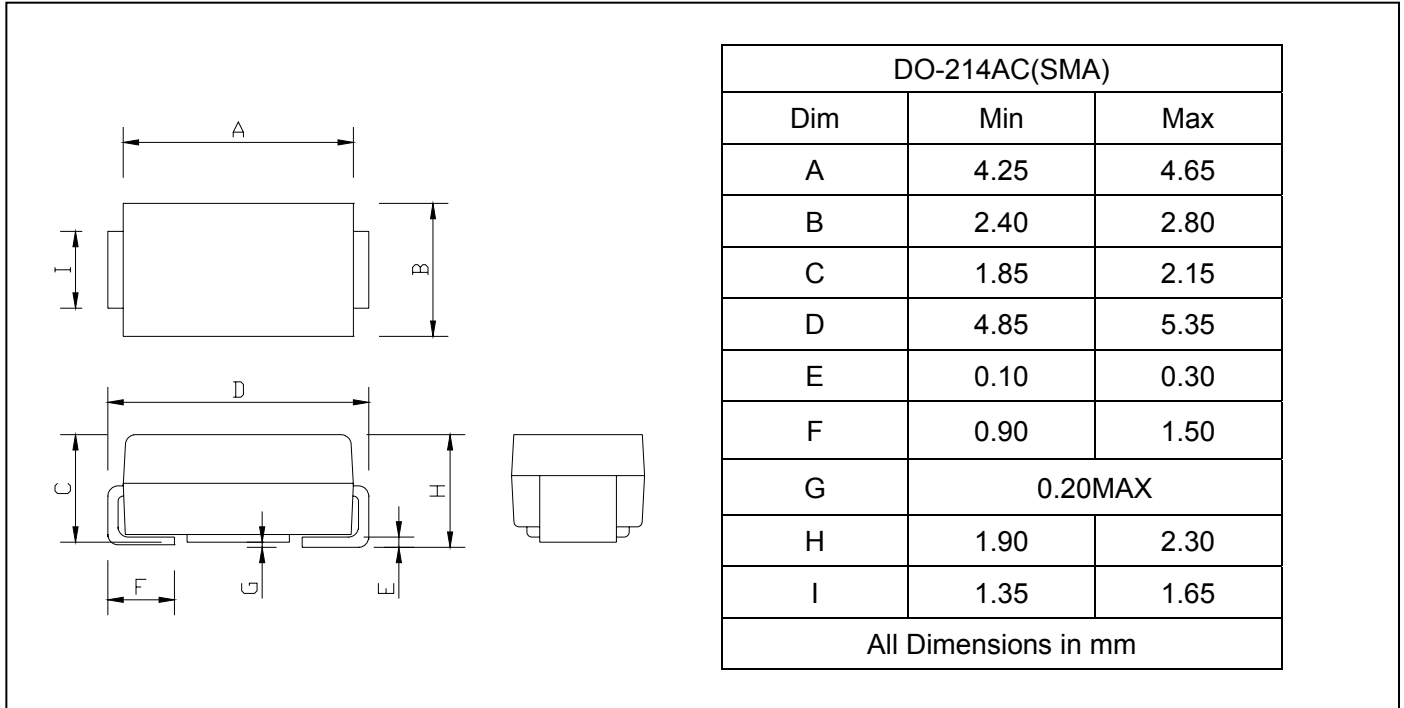
2. Measured at 1.0MHZ and applied reverse voltage of 4.0V DC.



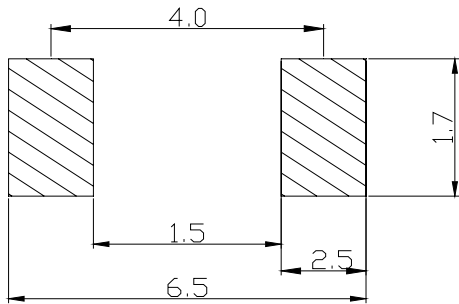
**SURFACE MOUNT RECTIFIERS**

**HS1A--HS1M**

**PACKAGE OUTLINE DIMENSIONS**



**SOLDERING FOOTPRINT**



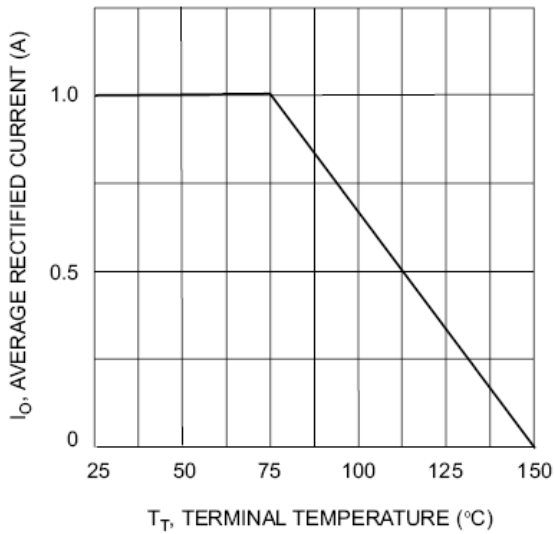
Unit : mm

**PACKAGE INFORMATION**

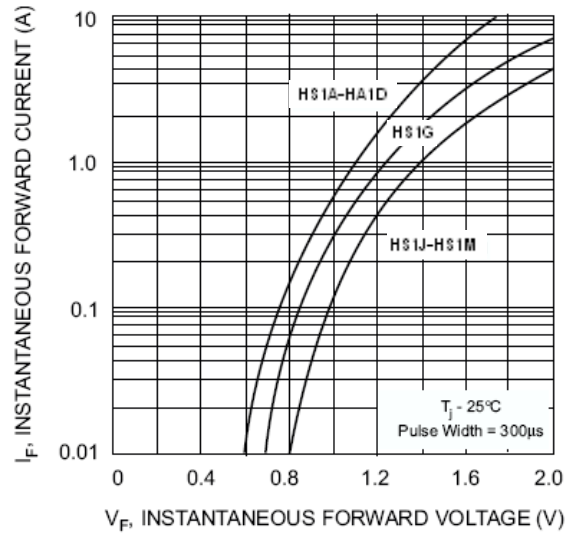
Device	Package	Shipping
HS1A--HS1M	DO-214AC(SMA)	5000/Tape&Reel

# SURFACE MOUNT RECTIFIERS

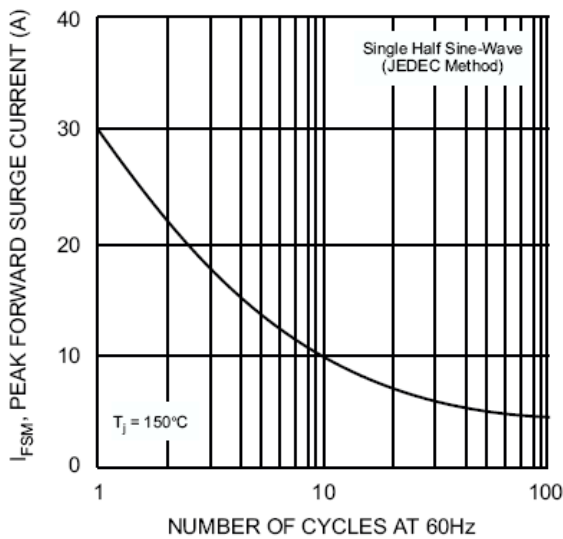
# HS1A--HS1M



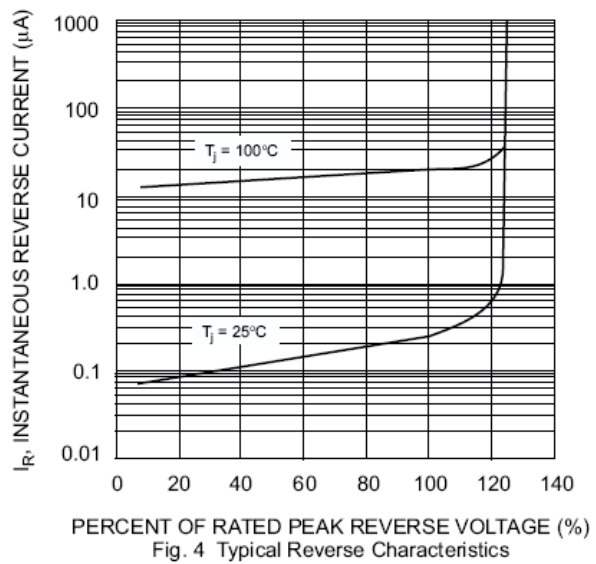
$T_T$ , TERMINAL TEMPERATURE (°C)  
Fig. 1 Forward Current Derating Curve



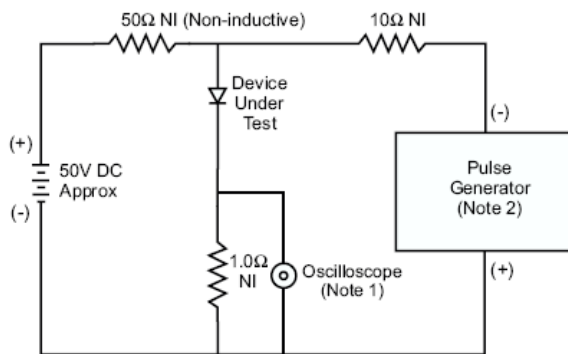
$I_F$ , INSTANTANEOUS FORWARD CURRENT (A)  
 $V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
 $T_J = 25^\circ\text{C}$   
Pulse Width = 300µs  
Fig. 2 Typical Forward Characteristics



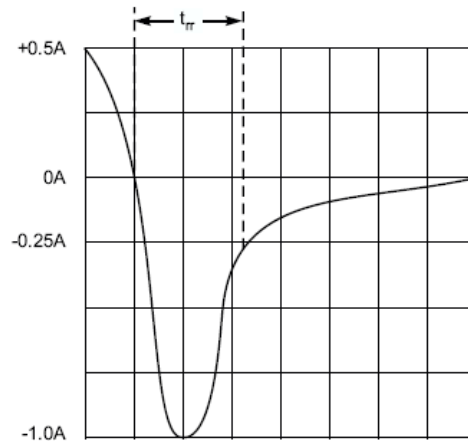
$I_{FSM}$ , PEAK FORWARD SURGE CURRENT (A)  
NUMBER OF CYCLES AT 60Hz  
Fig. 3 Forward Surge Current Derating Curve



$I_R$ , INSTANTANEOUS REVERSE CURRENT (µA)  
PERCENT OF RATED PEAK REVERSE VOLTAGE (%)  
Fig. 4 Typical Reverse Characteristics



- Notes:  
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.  
2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 50/100 ns/cm