HS2A thru HS2M

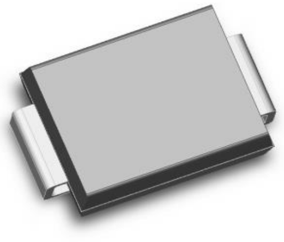
High Efficient Surface Mount Rectifiers

Reverse Voltage 50 to 1000Volts   Forward Current 2.0 A

Features

- Glass passivated junction chip
- For surface mounted application
- Low forward voltage drop
- Low profile package
- Built-in stain relief, ideal for automated placement
- Fast switching for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Weight:0.003 ounce,0.093 gram

RoHS
COMPLIANT



DO-214AA（SMB）

Typical Applications

For use of general purpose rectification in lighting, cellular phone, portable device, power supplies and other consumer applications.

Maximum Ratings (TA = 25 °C unless otherwise noted)

Parameter	Symbol	HS2A	HS2B	HS2D	HS2F	HS2G	HS2J	HS2K	HS2M	Unit
Maximum repetitive 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 output rectified current	$I_{F(AV)}$	2.0								A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	55								A
Rating for fusing(t<8.3ms)	I^2t	12.6								A^2sec
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150								°C

Electrical Characteristics (TA = 25 °C unless otherwise noted)

Parameter	Test Conditions	Symbol	HS2A	HS2B	HS2D	HS2F	HS2G	HS2J	HS2K	HS2M	Unit
Maximum instantaneous forward voltage	I_F=2.0A T_A=25℃	V_F	1.0				1.3	1.7			Volts
Maximum DC reverse current at rated DC blocking voltage	T_A=25℃ T_A=125℃	I_R	5.0 100								µA
Maximum reverse recovery time	I_F=0.5A,I_R=1.0A, I_{RR}=0.25A	t_{rr}	50					75			nS
Typical junction capacitance	4.0 V, 1 MHz	C_J	15					10			pF

Thermal Characteristics

Parameter	Symbol	HS2A	HS2B	HS2D	HS2F	HS2G	HS2J	HS2K	HS2M	Unit
Typical thermal resistance(1)	$R_{\theta JA}$	54								℃/W
	$R_{\theta JC}$	16								
	$R_{\theta Jl}$	7								

Notes:1. The thermal resistance from junction to ambient,case or mount,mounted on P.C.B with 8×8mm copper pads,2 OZ,FR4 PCB

Ratings and Characteristics Curves

(TA = 25℃ unless otherwise noted)

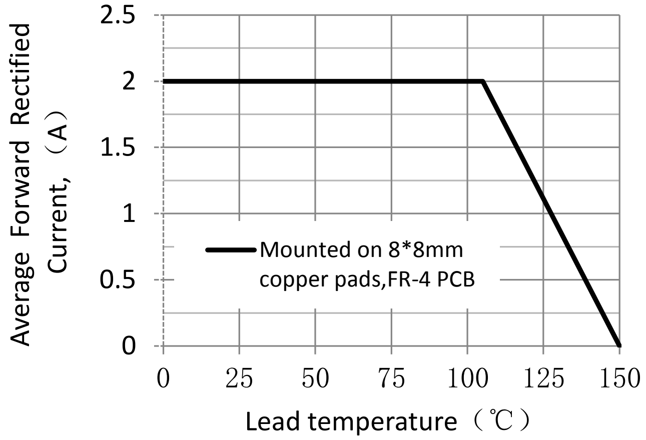


Figure 1.Forward Current Derating Curve

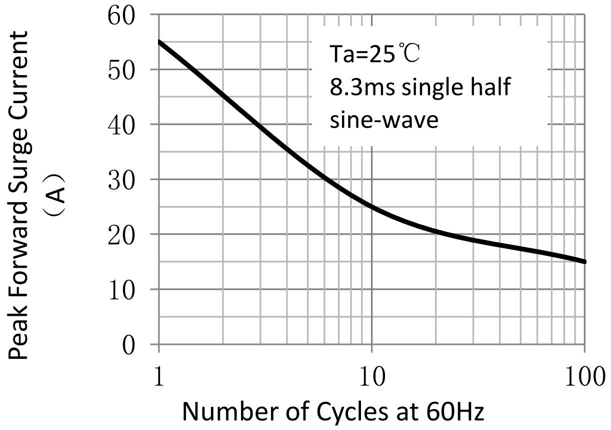


Figure 2.Maximum Non-Repetitive Peak Forward Surge Current

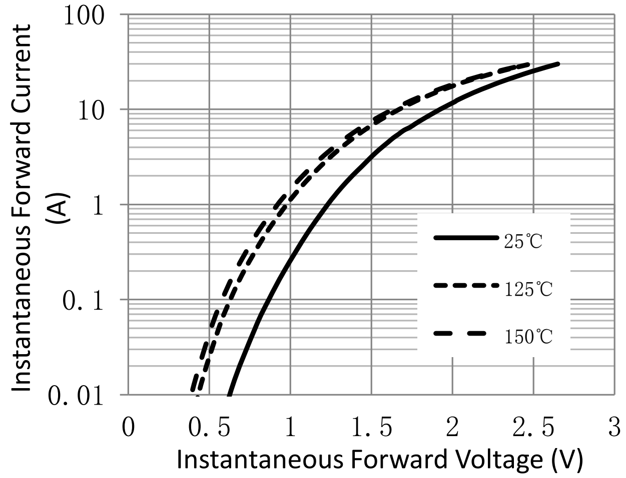


Figure 3. Typical Reverse Characteristics

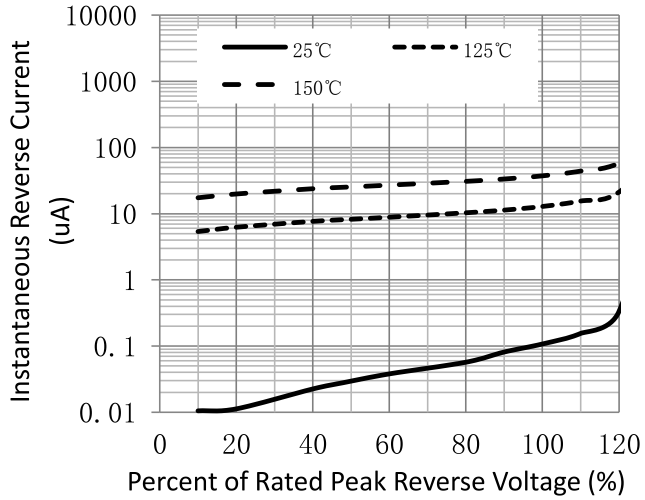


Figure 4. Typical Instantaneous Forward Characteristics

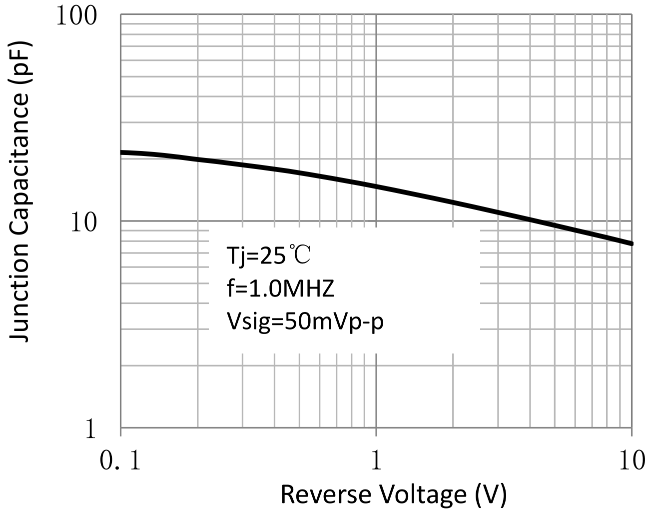
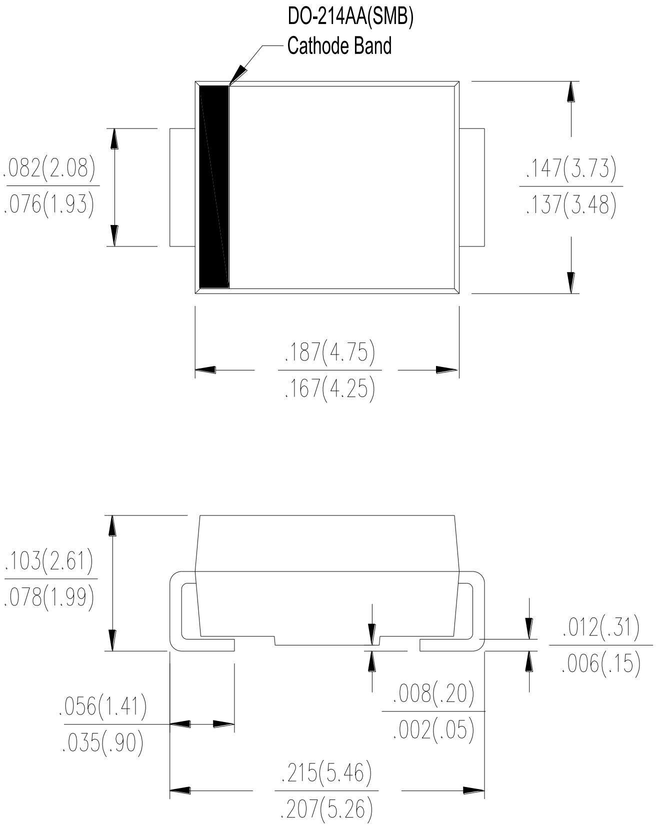


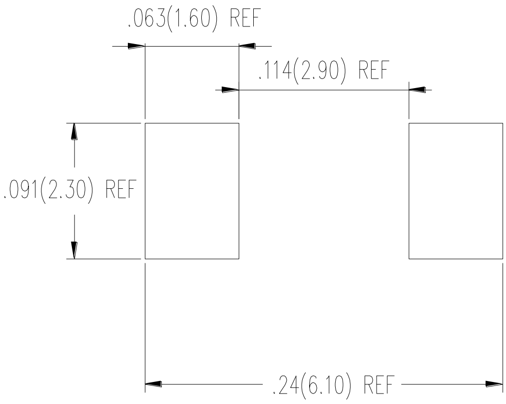
Figure 5. Typical Junction Capacitance

Package Outline Dimensions

in inches (millimeters)



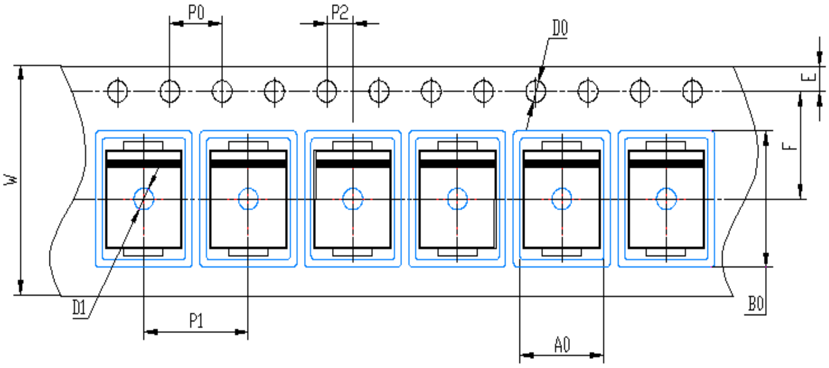
Mounting Pad Layout



Packing Information

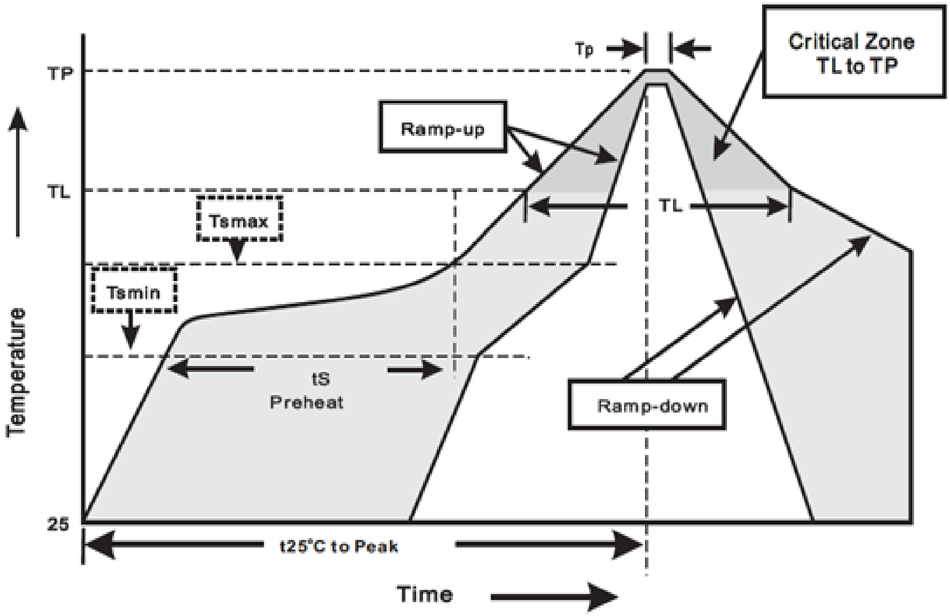
3000 pcs/Reel, 18 Reels/Box; 12mm Tape, 13" Reel

Tape & Reel Specification



Symbols	SMB (mm)
W	12±0.2
E	1.75±0.1
F	5.5±0.05
D0	1.5±0.1
D1	1.50 +0.1/-0
P0	4.0±0.1
P1	8.0±0.1
P2	2.0±0.05
A0	3.95±0.1
B0	5.74±0.1

Soldering Parameters



Reflow Soldering		Sn-Pb Eutectic	Pb-Free assembly
Pre Heat	- Temperature Min (Ts(min))	100 ℃	150 ℃
	- Temperature Max (Ts(max))	150 ℃	200 ℃
	- Time (min to max) (ts)	60 – 120 secs	60 – 180 secs
Average ramp up rate (Liquidus Temp (TL) to peak		3 ℃/second max	3 ℃/second max
TS(max) to TL - Ramp-up Rate		3 ℃/second max	3 ℃/second max
Reflow	- Temperature (TL) (Liquidus)	183 ℃	217 ℃
	- Time (min to max) (ts)	60 – 150 seconds	60 – 150 seconds
Peak Temperature (TP)		240+0/-5 ℃	260+0/-5 ℃
Time within 5 ℃ of actual peak Temperature (tp)		10 –30 seconds	20 – 40 seconds
Ramp-down Rate		6 ℃/second max	6 ℃/second max
Time 25 ℃ to peak Temperature (TP)		6 minutes Max.	8 minutes Max.
Do not exceed		240 ℃	260 ℃

Wave Soldering	
Peak Temperature :	265+0/-5 ℃
Dipping Time :	10 seconds
Soldering :	1 time

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