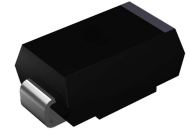


## Features

- Glass passivated junction chip
- For surface mount applications
- 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



DO-214AA (SMB)

## Applications

For use of general purpose rectifications in lighting, cellular phones, portable devices, power supplies and other consumer applications.

## Maximum Ratings (T<sub>A</sub> = 25°C unless otherwise noted)

Parameter	Symbol	HS2A	HS2B	HS2D	HS2F	HS2G	HS2J	HS2K	HS2M	Unit
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	300	400	600	800	1000	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	210	280	420	560	700	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	300	400	600	800	1000	V
Maximum Average Output Rectified Current	I <sub>F(AV)</sub>	1.5								A
Peak Forward Surge Current (8.3 ms single half sine-wave superimposed on rated load)	I <sub>FSM</sub>	50								A
Rating for Fusing (t<8.3ms)	I <sup>2</sup> t	10								A <sup>2</sup> sec
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150								°C

## Electrical Characteristics (T<sub>A</sub> = 25°C unless otherwise noted)

Parameter	Test Conditions	Symbol	HS2A	HS2B	HS2D	HS2F	HS2G	HS2J	HS2K	HS2M	Unit
Maximum Instantaneous Forward Voltage	I <sub>F</sub> =1.5A	V <sub>F</sub>	1.0				1.3	1.7			V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T <sub>A</sub> =25°C T <sub>A</sub> =125°C	I <sub>R</sub>	5.0				100				μA
Maximum Reverse Recovery Time	I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>RR</sub> =0.25A	t <sub>rr</sub>	50				75			ns	
Typical Junction Capacitance	4.0 V, 1 MHz	C <sub>J</sub>	50				30			pF	

## Thermal Characteristics

Parameter	Symbol	HS2A	HS2B	HS2D	HS2F	HS2G	HS2J	HS2K	HS2M	Unit
Typical thermal resistance <sup>(1)</sup>	R <sub>θJA</sub>	54								°C/W
	R <sub>θJC</sub>	16								
	R <sub>θJI</sub>	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 ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

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

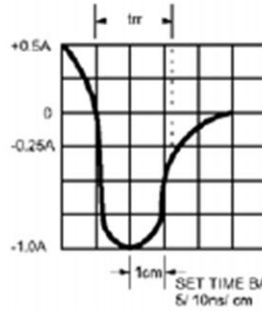
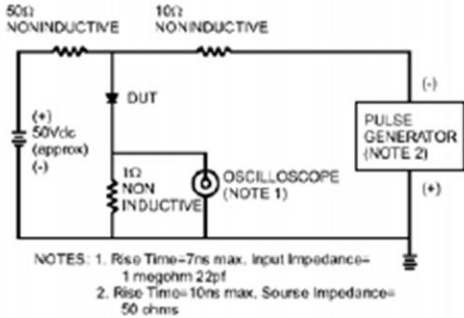


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

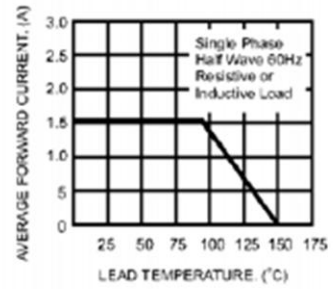


FIG.3- TYPICAL REVERSE CHARACTERISTICS

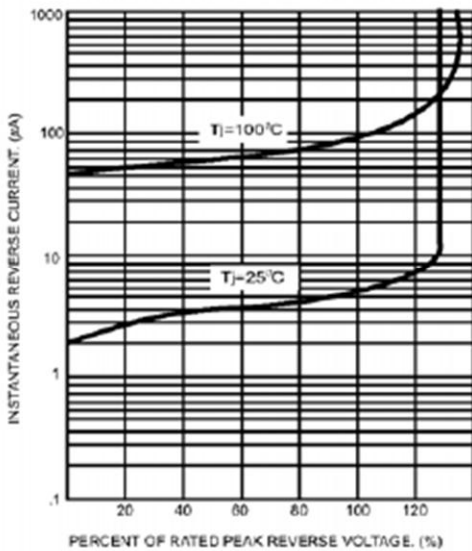


FIG.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

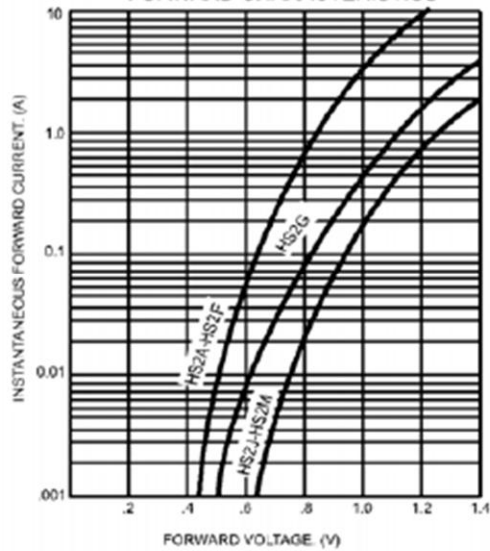


FIG.5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

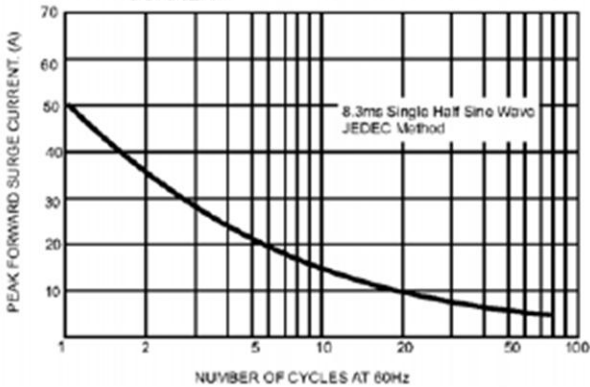
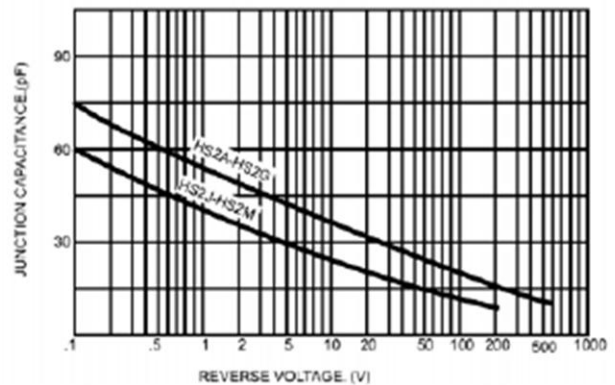


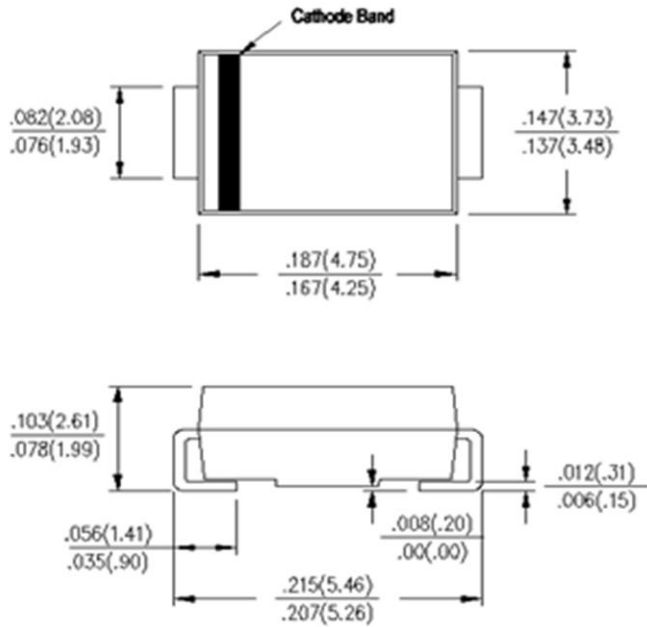
FIG.6- TYPICAL JUNCTION CAPACITANCE



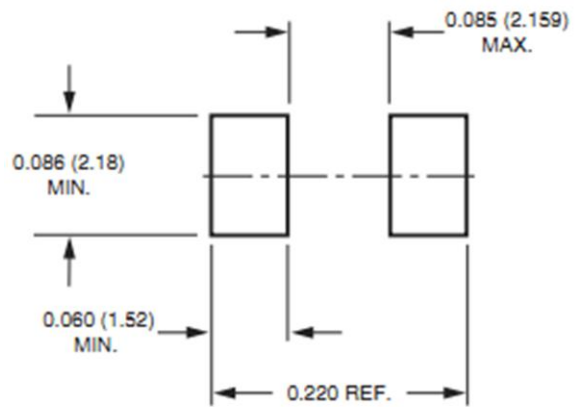
**Package Outline Dimensions**

in inches (millimeters)

**SMB (DO-214AA)**



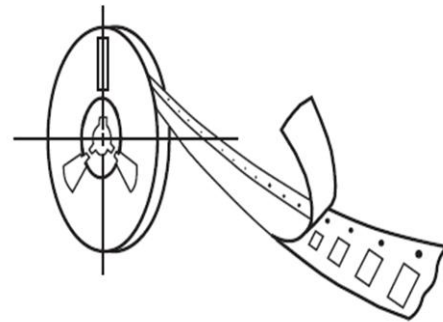
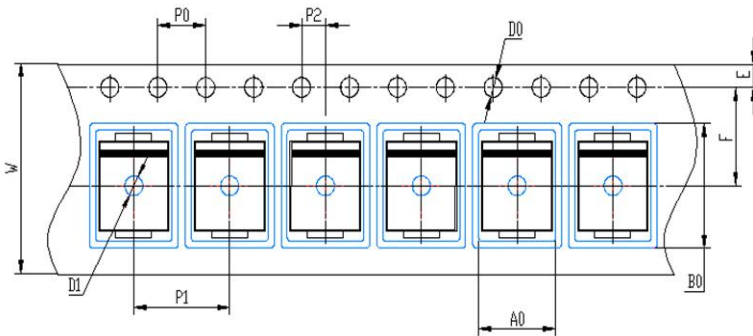
**Mounting Pad Layout**



**Packing Information**

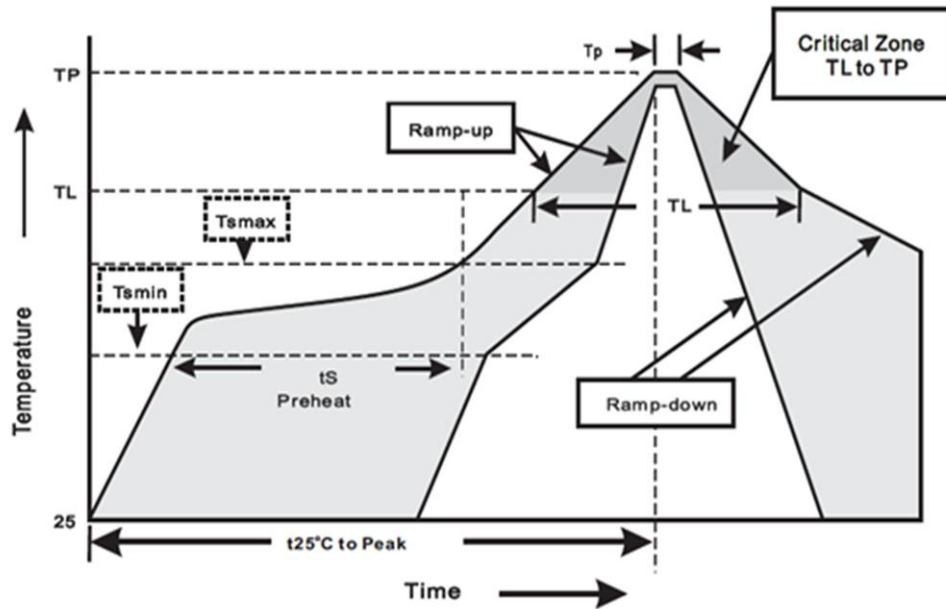
3000 pcs/Reel, 18 Reels/Box; 12mm Tape, 13" Reel

**Tape & Reel Specification**



Symbol	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 Condition		Lead-free assembly
Pre Heat	- Temperature Min (Ts(min))	150°C
	- Temperature Max (Ts(max))	200°C
	- Time (min to max) (ts)	60 – 180 secs
Average ramp up rate (Liquidus Temp (TL) to peak)		3°C/second max
TS(max) to TL - Ramp-up Rate		3°C/second max
Reflow	- Temperature (TL) (Liquidus)	217°C
	- Time (min to max) (ts)	60 – 150 seconds
Peak Temperature (TP)		260+0/-5 °C
Time within 5°C of actual peak Temperature (tp)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (TP)		8 minutes Max.
Do not exceed		280°C