

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
- ◇ Meet MSL level 1, per J-STD-020D,
lead free maximum peak of 260°C
- ◇ Plastic material used carries Underwriters
Laboratory Classification 94V-0
- ◇ Green compound with suffix "G" on packing
code & prefix "G" on datecode



Mechanical Data

- ◇ Case: Molded plastic
- ◇ Terminal: Pure tin plated, lead free
- ◇ Polarity: Indicated by cathode band
- ◇ Packing: 12mm tape per EIA STD RS-481
- ◇ Weight: 0.093 grams

Ordering Information (example)

Part No.	Package	Packing	Packing code	Packing code (Green)
HS3AB	SMB	850 / 7" REEL	R5	R5G

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	HS 3AB	HS 3BB	HS 3DB	HS 3FB	HS 3GB	HS 3JB	HS 3KB	HS 3MB	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 Forward Rectified Current	$I_{F(AV)}$	3								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	100								A
Maximum Instantaneous Forward Voltage (Note 1) @ 3 A	V_F	1.0			1.3	1.7			V	
Maximum Reverse Current @ Rated VR $T_A=25\text{ }^\circ\text{C}$ $T_A=125\text{ }^\circ\text{C}$	I_R	10 250								μA
Maximum Reverse Recovery Time (Note 2)	T_{rr}	50			75			nS		
Typical Junction Capacitance (Note 3)	C_j	80			50			pF		
Typical Thermal Resistance	$R_{\theta JA}$	60								$^\circ\text{C/W}$
Operating Temperature Range	T_J	- 55 to + 150								$^\circ\text{C}$
Storage Temperature Range	T_{STG}	- 55 to + 150								$^\circ\text{C}$

Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle

Note 2: Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

RATINGS AND CHARACTERISTIC CURVES (HS3AB THRU HS3MB)

FIG.1 FORWARD CURRENT DERATING CURVE

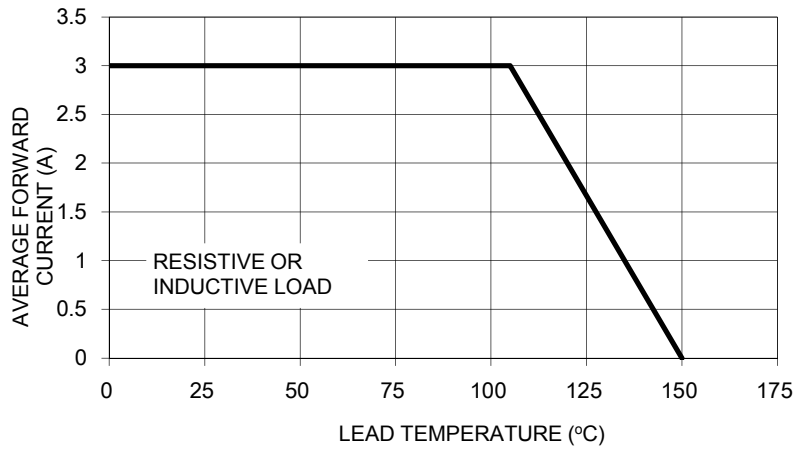


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

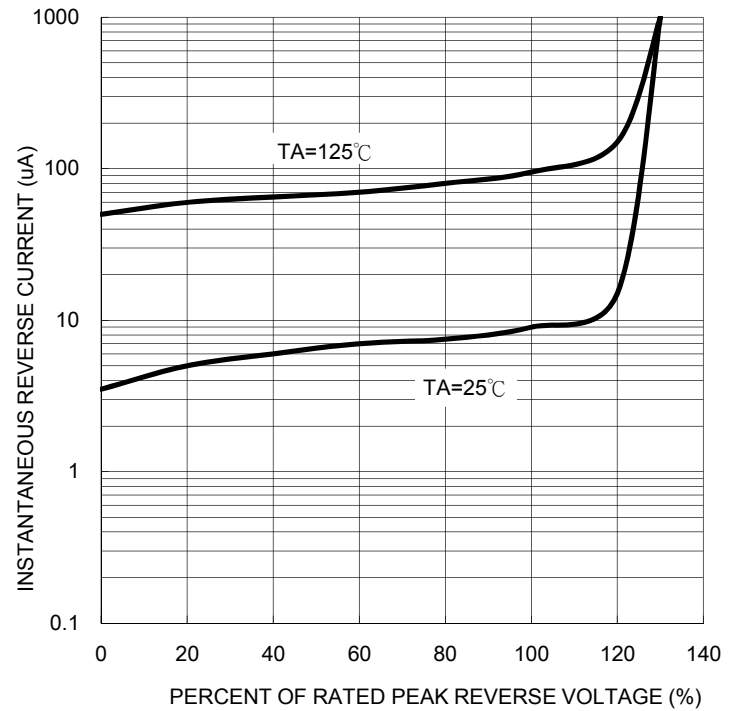


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

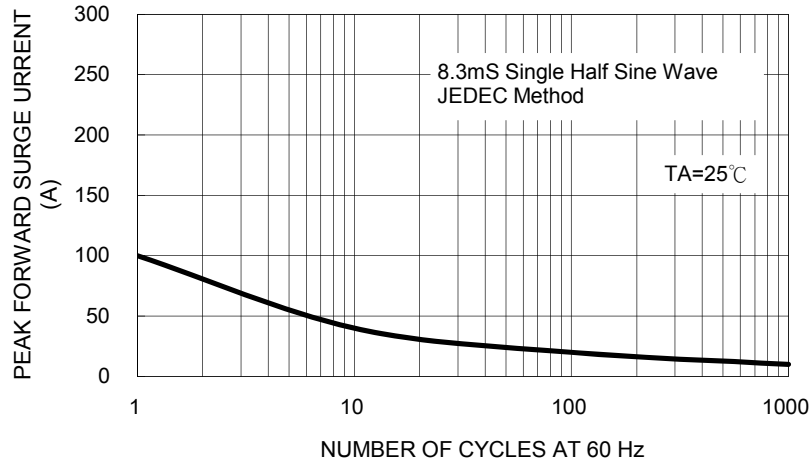


FIG. 5 TYPICAL FORWARD CHARACTERISTICS

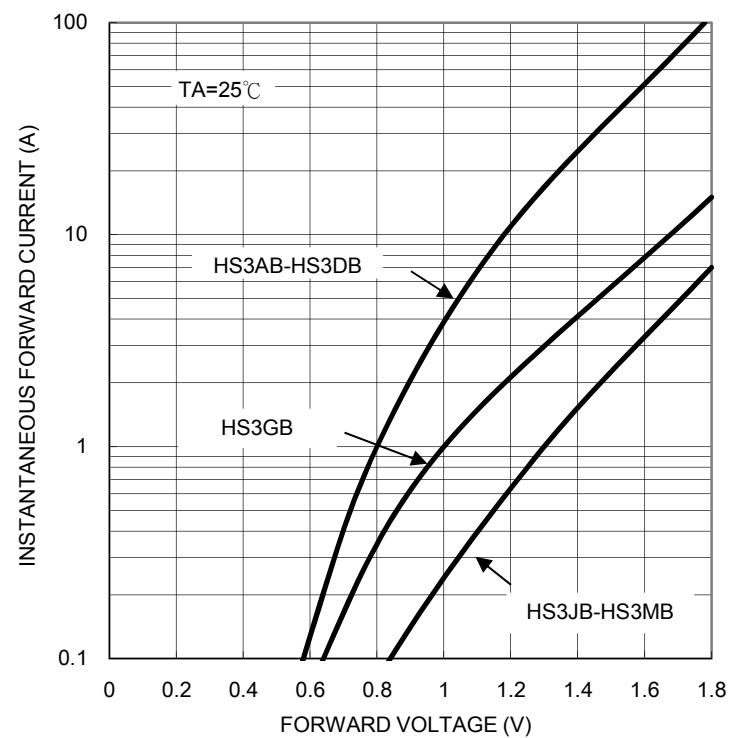


FIG. 4 TYPICAL JUNCTION CAPACITANCE

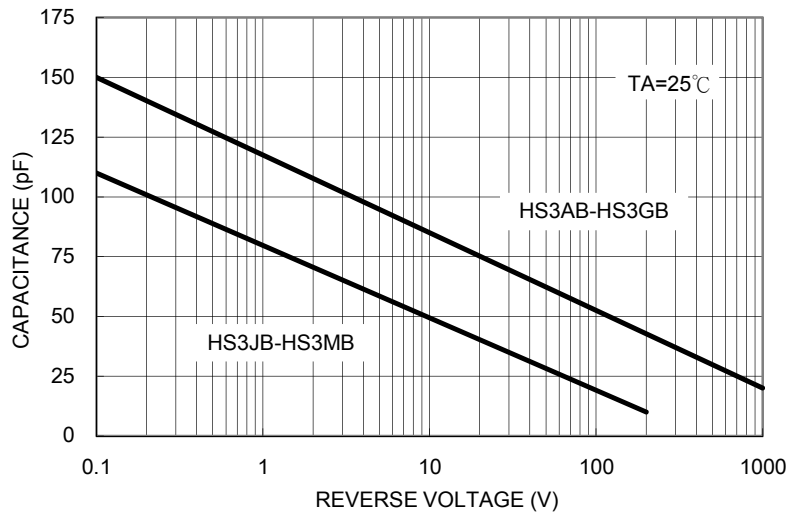
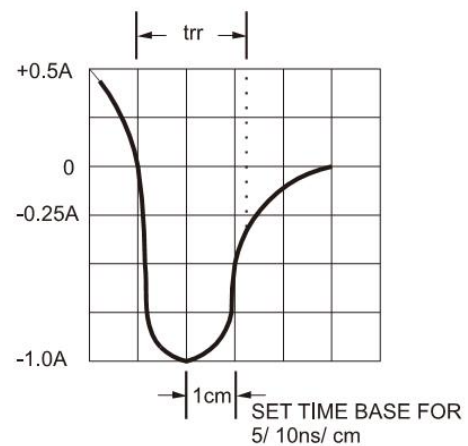
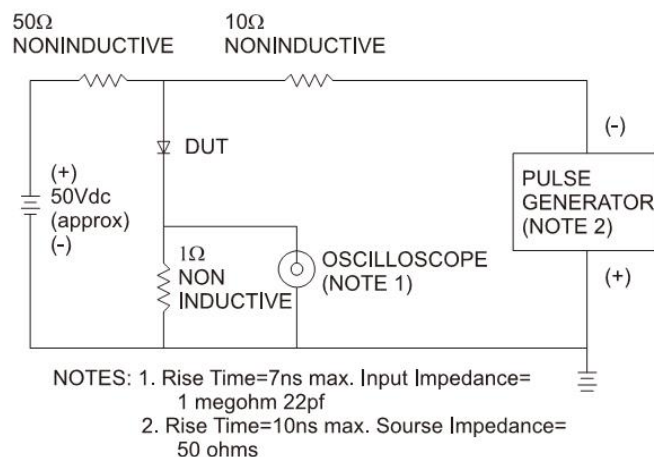


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

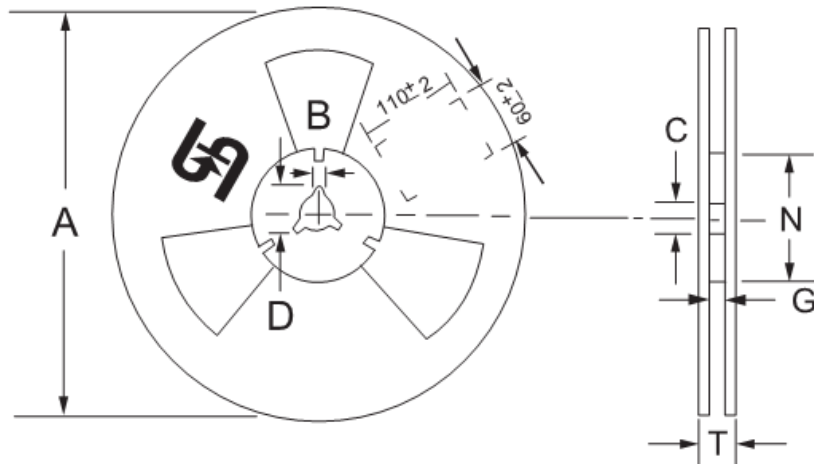
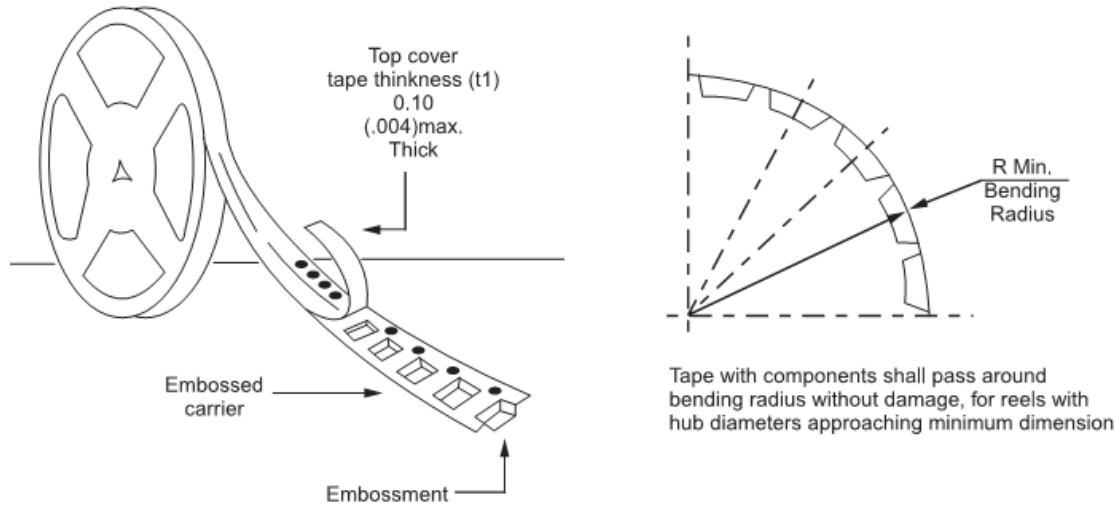


Ordering information

Part No.	Package	Packing	Packing code	Packing code (Green)
HS3XB (Note)	SMB	850 / 7" REEL	R5	R5G
	SMB	3K / 13" REEL	R4	R4G
	SMB	3K / 13" Plastic REEL	M4	M4G

Note: "x" is Device Code from "A" thru "B".

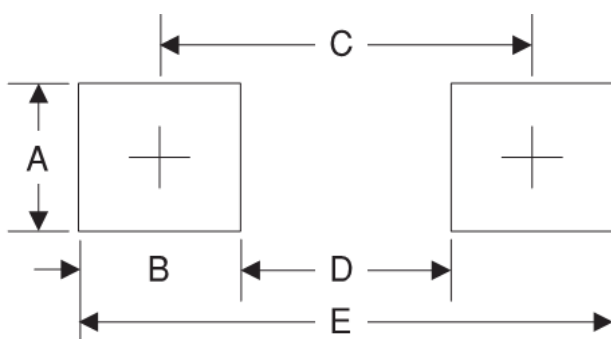
Tape & Reel specification



Reel Size	Tape Size	A	B	C	D	N	G	T
		±2.0	±0.4	+0.5;-0.2	min	±1.0	+0.8;-0	max
7"	12mm	178	1.9	13	21	62	12.2	14.6
Reel Size	Tape Size	A	B	C	D	N	G	T
		max	±0.5	±0.5	min	±0.5	+2.0;-0	max
13"	12mm	330	2	13	20.2	75	12.4	18.4

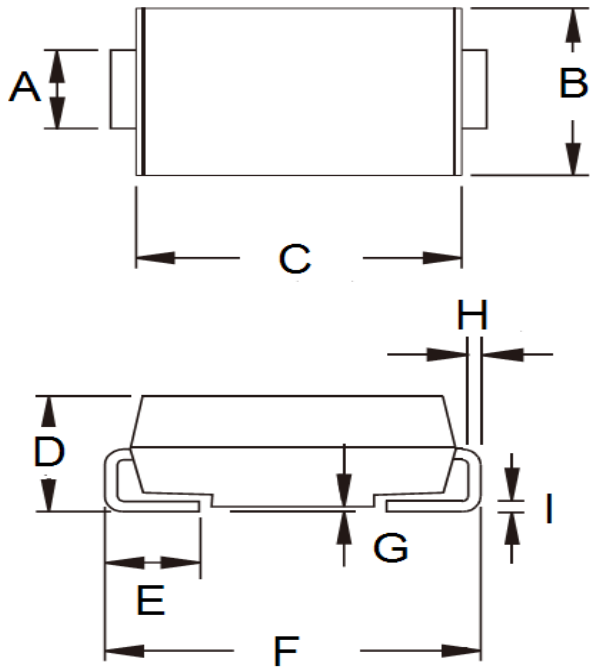
Unit (mm)

Suggested PAD Layout



Symbol	Unit(mm)
A	2.3
B	2.5
C	4.3
D	1.8
E	6.7

Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	1.95	2.10	0.077	0.083
B	3.48	3.73	0.137	0.147
C	4.25	4.75	0.167	0.187
D	1.99	2.61	0.078	0.103
E	0.90	1.41	0.035	0.056
F	5.10	5.30	0.201	0.209
G	0.10	0.20	0.004	0.008
H	0.15	0.31	0.006	0.012
I	0.15	0.31	0.006	0.012

Marking Diagram



- P/N = Specific Device Code
- G = Green Compound
- YW = Date Code
- F = Factory Code