Surface Mount High Efficient Rectifier

Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Super fast reverse recovery time
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

Typical Applications

For use in high frequency rectification of power supplies, inverters, converters, and freewheeling diodes for consumer and telecommunication.

Mechanical Data

- **Package**: DO-214AA (SMB)
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

■Maximum Ratings (T_a=25 Unless otherwise specified

PARAMETER	SYMBOL	UNIT	HS1AB	HS1BB	HS1DB	HS1FB	HS1GB	HS1JB	HS1KB	HS1MB
Device marking code			HS1AB	HS1BB	HS1DB	HS1FB	HS1GB	HS1JB	HS1KB	HS1MB
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	50	100	200	300	400	600	800	1000
Maximum RMS Voltage	V_{RMS}	V	35	70	140	210	280	420	560	700
Maximum DC blocking Voltage	V_{DC}	V	50	100	200	300	400	600	800	1000
Average rectified output current @60Hz sine wave, resistance load, TL (Fig.1)	I_O	A	1.0							
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25	I_{FSM}	A	30							
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25			60							
Current squared time @1ms≤t≤8.3ms Tj=25	I^2t	A^2s	3.735							

Storage temperature

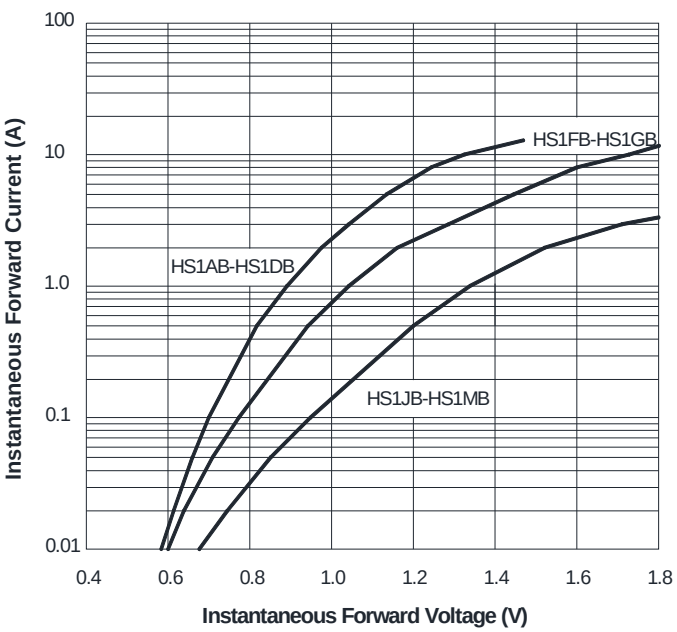
■Electrical Characteristics T_a=25 Unless otherwise specified

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	HS1AB	HS1BB	HS1DB	HS1FB	HS1GB	HS1JB	HS1KB	HS1MB
Maximum instantaneous forward voltage	V_F	V	I_{FM}=1.0A	1.0			1.3		1.7		
Maximum reverse recovery time	t_{rr}	ns	I_F=0.5A,I_R=1.0A, I_{rr}=0.25A	50					75		
Maximum DC reverse current at rated DC blocking voltage	IR	μA	T_j =25	5.0							
			T_j =125	100							
Typical junction capacitance	Cj	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	17			12		7		

■Thermal Characteristics T_a=25 Unless otherwise specified

PARAMETER	SYMBOL	UNIT	HS1AB	HS1BB	HS1DB	HS1FB	HS1GB	HS1JB	HS1KB	HS1MB
Typical Thermal resistance	$R_{\theta J-A}$(1)	/W	60							
	$R_{\theta J-L}$(1)		20							

FIG.3: Typical Forward Characteristics



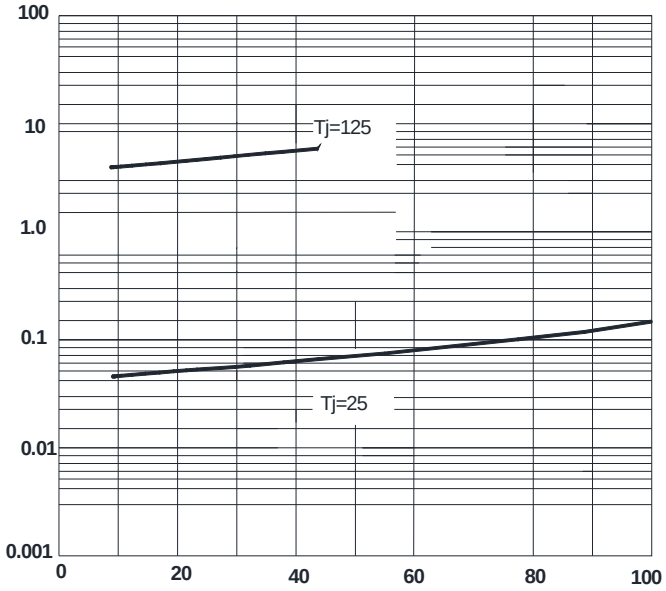
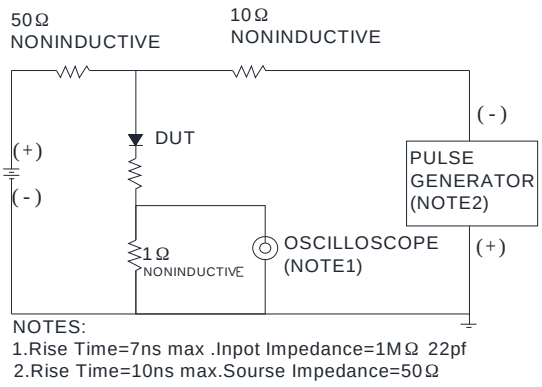
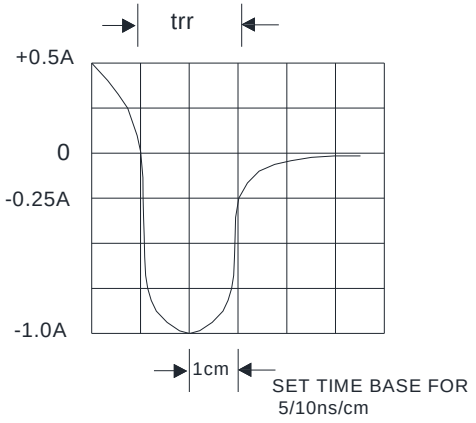


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

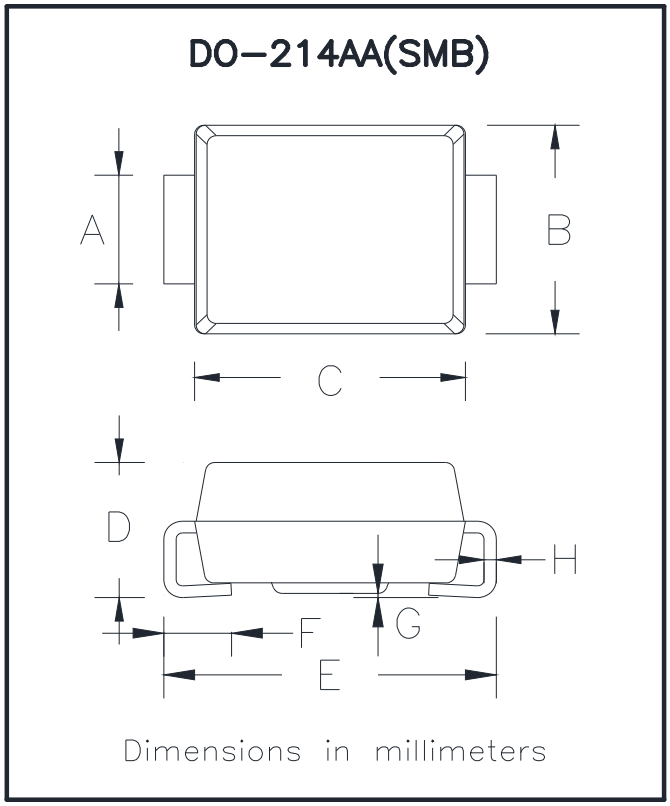




■Ordering Information (Example)

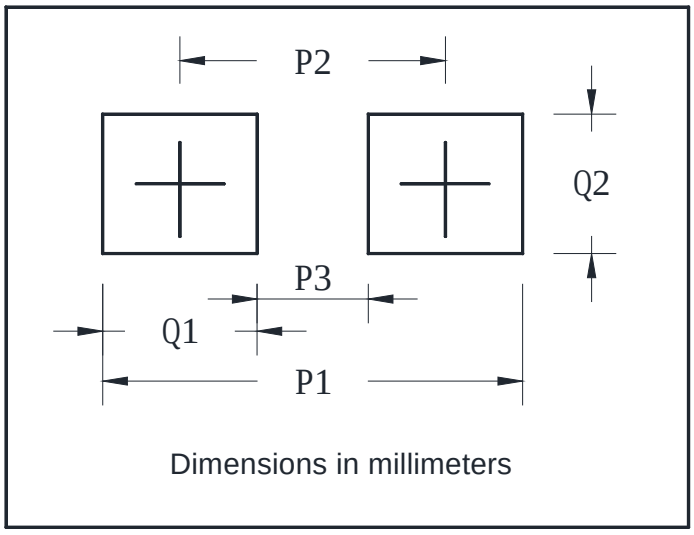
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
HS1AB-HS1MB	F1	Approximate 0.096	3000	/	48000	13” reel
HS1AB-HS1MB	F2	Approximate 0.096	750	6000	24000	7” reel
HS1AB-HS1MB	F3	Approximate 0.096	500	4000	16000	7” reel

■ Outline Dimensions



DO-214AA(SMB)		
Dim	Min	Max
A	1.85	2.15
B	3.30	3.94
C	4.05	4.75
D	1.99	2.61
E	5.21	5.59
F	0.90	1.41
G	0.05	0.20
H	0.15	0.31

■ Suggested pad layout



DO-214AA(SMB)	
Dim	Millimeters
P1	6.8
P2	4.3
P3	1.8
Q1	2.5
Q2	2.3

Disclaimer

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