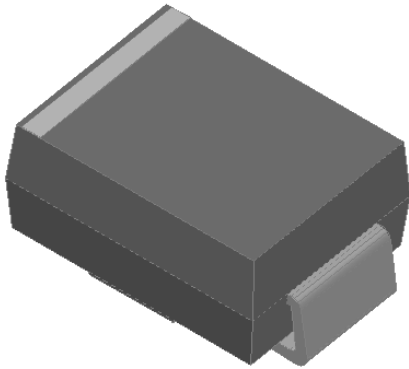




# HS1AB THRU HS1MB

## Surface Mount High Efficient Rectifier

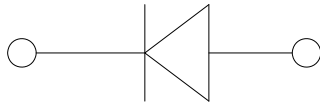


### Features

- 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 (Ta=25°C 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
Repetitive peak reverse voltage	VRRM	V	50	100	200	300	400	600	800	1000
Average rectified output current @60Hz sine wave, resistance load, TL (Fig.1)	IO	A	1.0							
Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, Ta=25°C	IFSM	A	30							
Storage temperature	Tstg	°C	-55~+150							
Junction temperature	Tj	°C	-55~+150							

### ■Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	HS1AB	HS1BB	HS1DB	HS1FB	HS1GB	HS1JB	HS1KB	HS1MB
Maximum instantaneous forward voltage drop per diode	VF	V	IFM=1.0A	1.0			1.3		1.7		
Maximum reverse recovery time	tr	ns	IF=0.5A, IR=1.0A, Irr=0.25A	50					75		
Maximum DC reverse current at rated DC blocking voltage per diode @ VRM=VRRM	IRRM	µA	Ta=25°C	5.0							
			Ta=125°C	100							



# HS1AB THRU HS1MB

## ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	HS1AB	HS1BB	HS1DB	HS1FB	HS1GB	HS1JB	HS1KB	HS1MB
Typical Thermal resistance	R $\theta$ J-A <sup>(1)</sup>	°C/W	60 <sup>(1)</sup>							
	R $\theta$ J-L <sup>(1)</sup>		15 <sup>(1)</sup>							

Note:  
 (1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

## ■ Characteristics (Typical)

FIG.1: I<sub>o</sub>-TL Cure

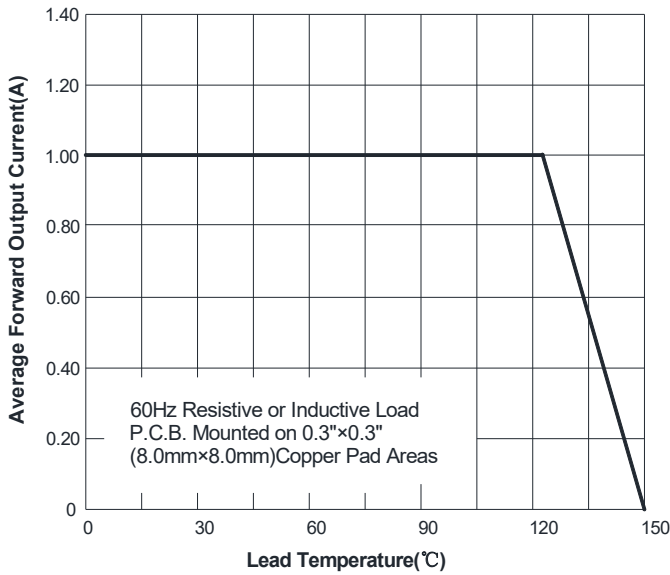


FIG.2: Forward Surge Current Capability

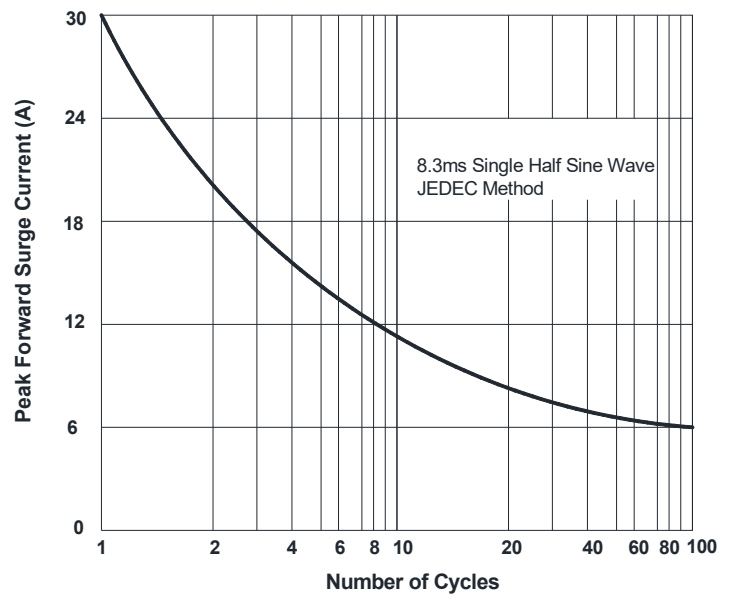


FIG.3: Typical Forward Characteristics

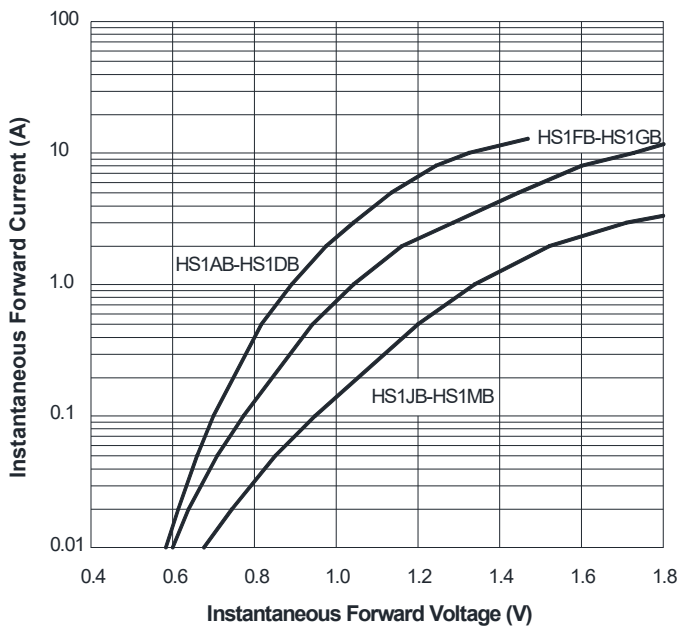


FIG.4: Typical Reverse Characteristics

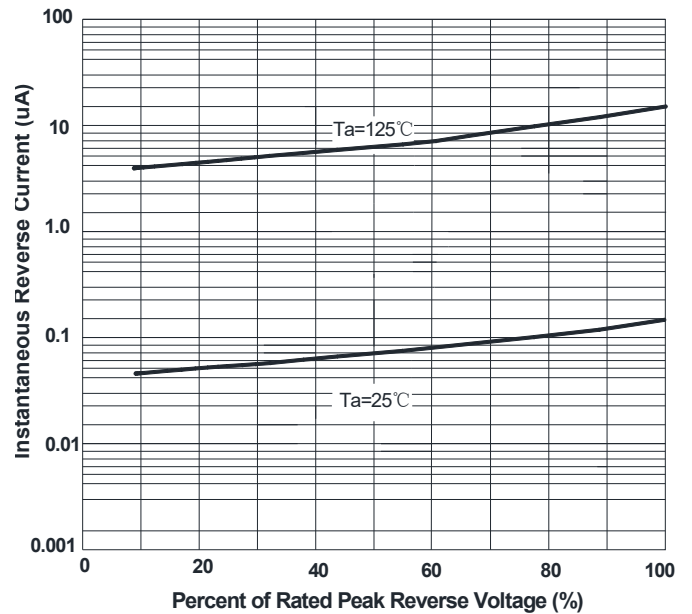
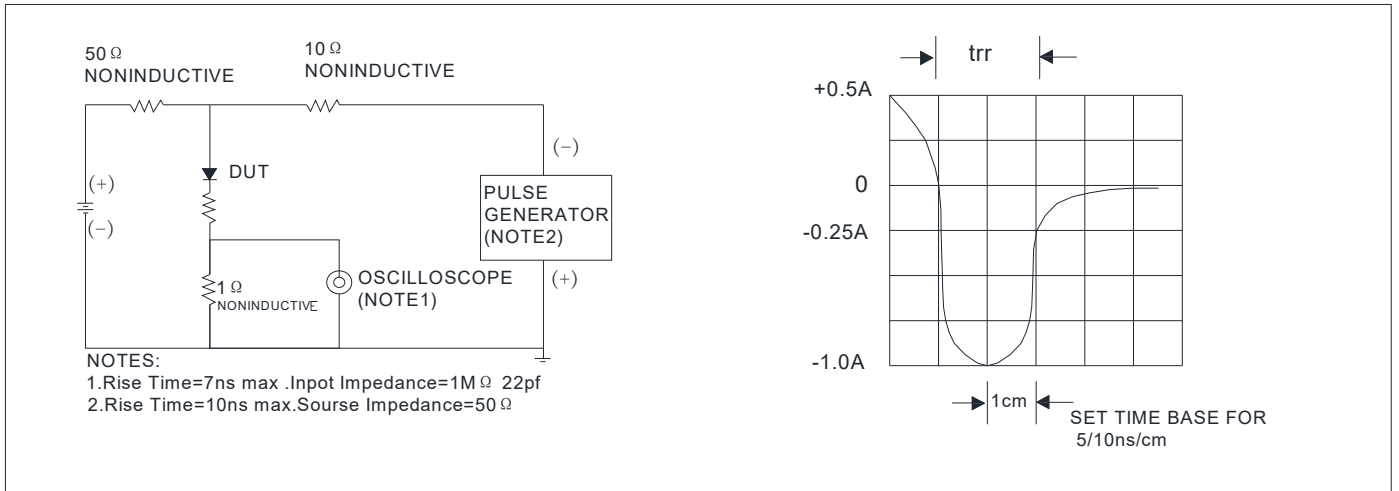


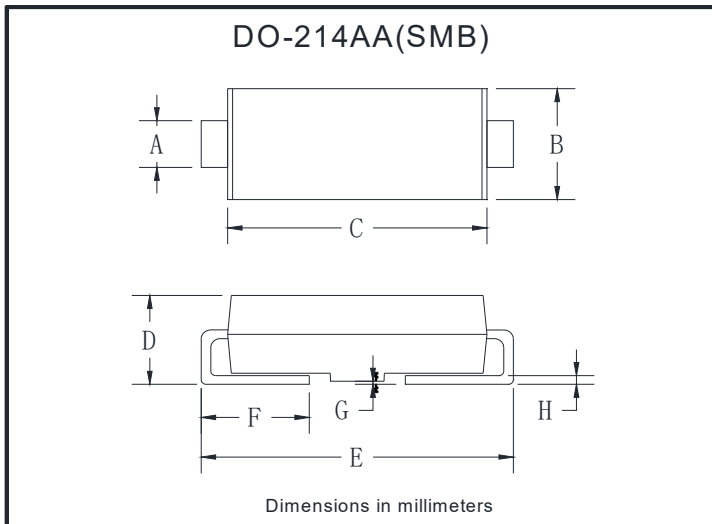
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



## Ordering Information (Example)

PREFERRED 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	6000	48000	13" reel
HS1AB-HS1MB	F2	Approximate 0.096	750	3000	24000	7" reel
HS1AB-HS1MB	F3	Approximate 0.096	500	2000	16000	7" reel

## Outline Dimensions

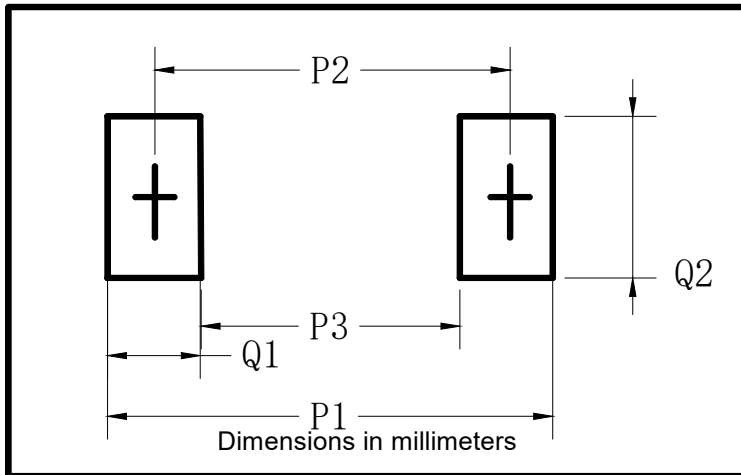


DO-214AA(SMB)		
Dim	Min	Max
A	1.85	2.15
B	3.30	3.94
C	4.25	4.75
D	1.99	2.61
E	5.21	5.59
F	0.90	1.41
G	0.10	0.20
H	0.15	0.31



## HS1AB THRU HS1MB

### ■ Suggested pad layout



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



## HS1AB THRU HS1MB

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