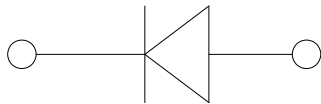


Surface Mount High Efficient Rectifier



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, -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°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	HS3QB
Device marking code			HS3QB
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	V	1200
Maximum RMS Voltage	V _{RMS}	V	840
Maximum DC blocking Voltage	V _{DC}	V	1200
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	I _O	A	3.0
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T _j =25°C	I _{FSM}	A	80
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T _j =25°C			160
Current squared time @1ms≤t≤8.3ms T _j =25°C	I ² t	A ² s	26.5
Storage temperature	T _{stg}	°C	-55 ~ +150
Junction temperature	T _j	°C	-55 ~ +150

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	HS3QB
Maximum instantaneous forward voltage	V _F	V	I _{FM} =3.0A	2.4
Maximum reverse recovery time	t _{rr}	ns	I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	75
Maximum DC reverse current at rated DC blocking voltage	I _R	μA	T _j =25°C	5
			T _j =125°C	100
Typical junction capacitance	C _j	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	23

■Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	HS3QB
Typical Thermal Resistance	R _{θJA}	°C/W	65 ⁽¹⁾
	R _{θJL}		18 ⁽¹⁾
	R _{θJC}		15 ⁽¹⁾

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)

FIG1: I_o-T_LCurve

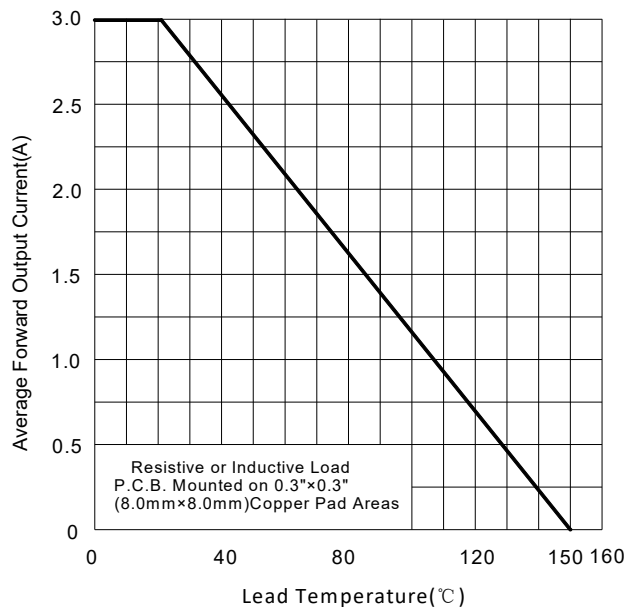


FIG2: Surge Forward Current Capability

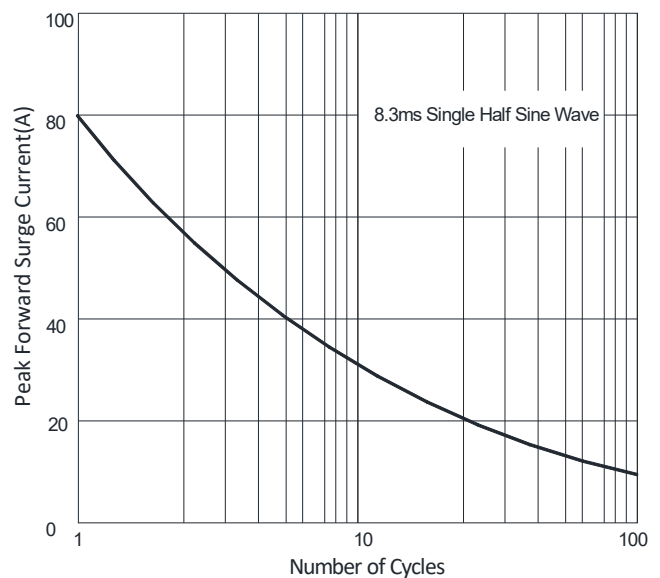


FIG3: Forward characteristics

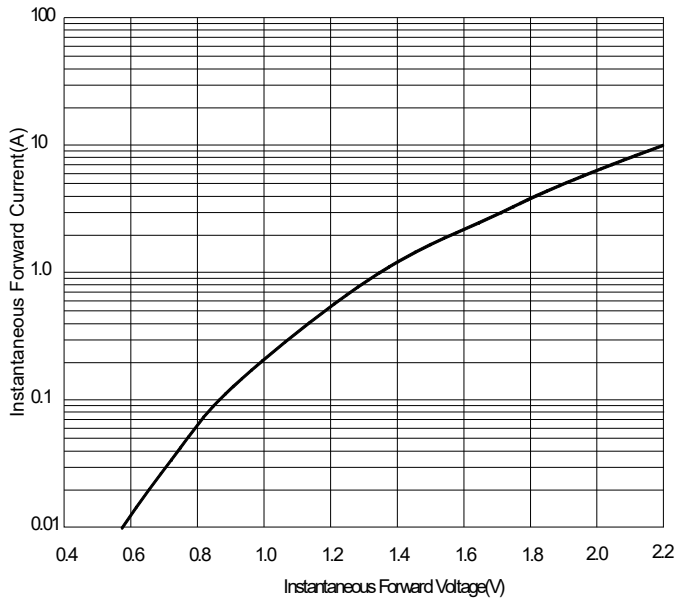


FIG4: Typical Reverse Characteristics

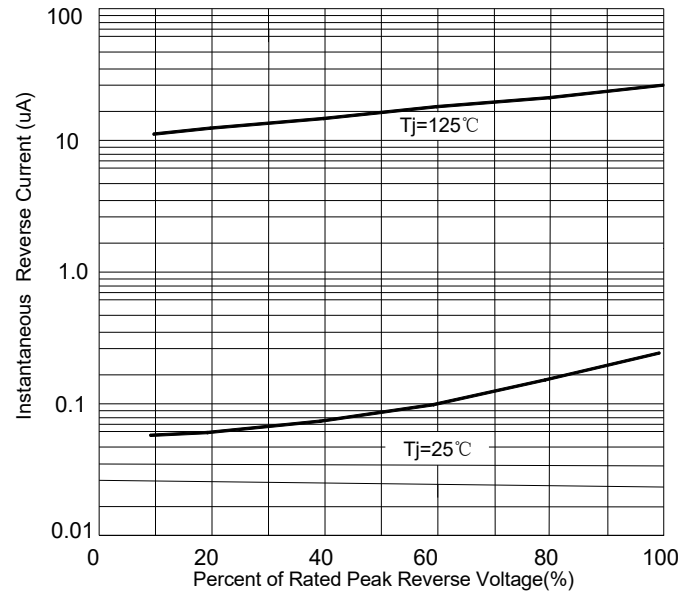
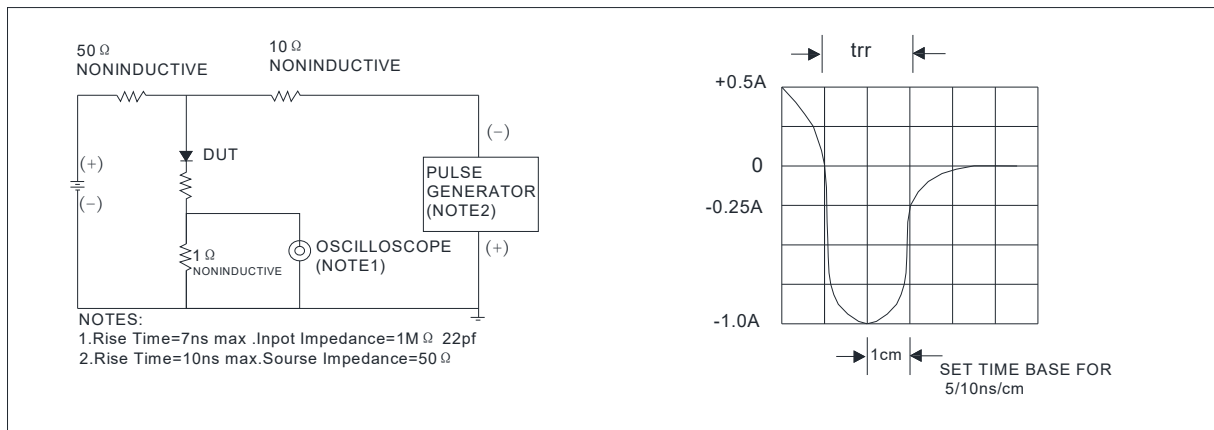


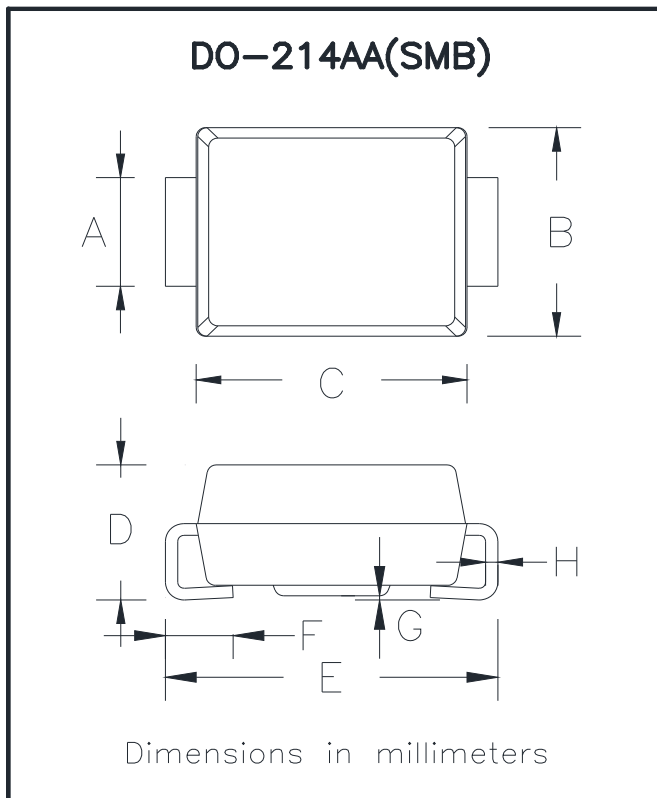
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



Ordering Information (Example)

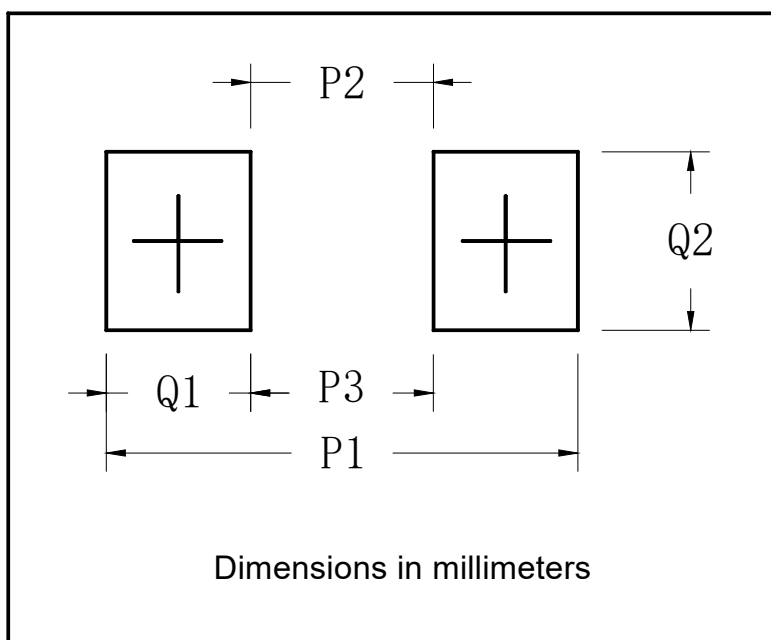
PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
HS3QB	F1	Approximate 0.096	3000	/	48000	13" reel
HS3QB	F2	Approximate 0.096	750	6000	24000	7" reel
HS3QB	F3	Approximate 0.096	500	4000	16000	7" reel

■ 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

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