

## FEATURE

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- 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<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	GR1AB	GR1BB	GR1DB	GR1GB	GR1JB	GR1KB	GR1MB
Device marking code			GR1AB	GR1BB	GR1DB	GR1GB	GR1JB	GR1KB	GR1MB
Repetitive peak reverse voltage	VRRM	V	50	100	200	400	600	800	1000
Average rectified output current @60Hz sine wave, resistance load, TL (Fig.1)	I <sub>O</sub>	A	1.0						
Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, T <sub>a</sub> =25°C	IFSM	A	30						
Storage temperature	T <sub>stg</sub>	°C	-55~+150						
Junction temperature	T <sub>j</sub>	°C	-55~+150						

## ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	GR1AB	GR1BB	GR1DB	GR1GB	GR1JB	GR1KB	GR1MB
Maximum instantaneous forward voltage drop per diode	V <sub>F</sub>	V	I <sub>FM</sub> =1.0A	1.3						
Maximum reverse recovery time	t <sub>r</sub>	ns	I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>r</sub> =0.25A	150				250	500	
Maximum DC reverse current at rated DC blocking voltage per diode @ VRM=VRRM	I <sub>RRM</sub>	μA	T <sub>a</sub> =25°C	5.0						
			T <sub>a</sub> =125°C	100						

## THERMAL CHARACTERISTICS (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	GR1AB	GR1BB	GR1DB	GR1GB	GR1JB	GR1KB	GR1MB
Typical Thermal resistance	R <sub>θJ-A</sub> (1)	°C/W	70						
	R <sub>θJ-L</sub> (1)		20						

Note: 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)**

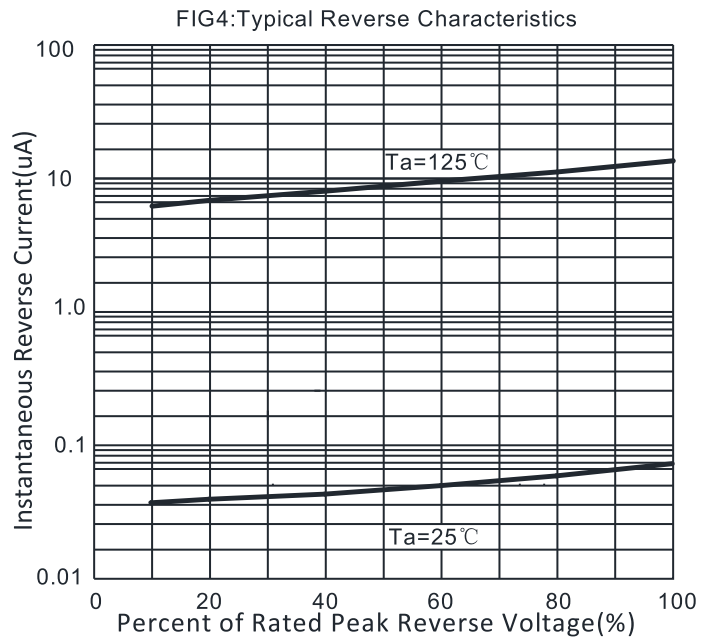
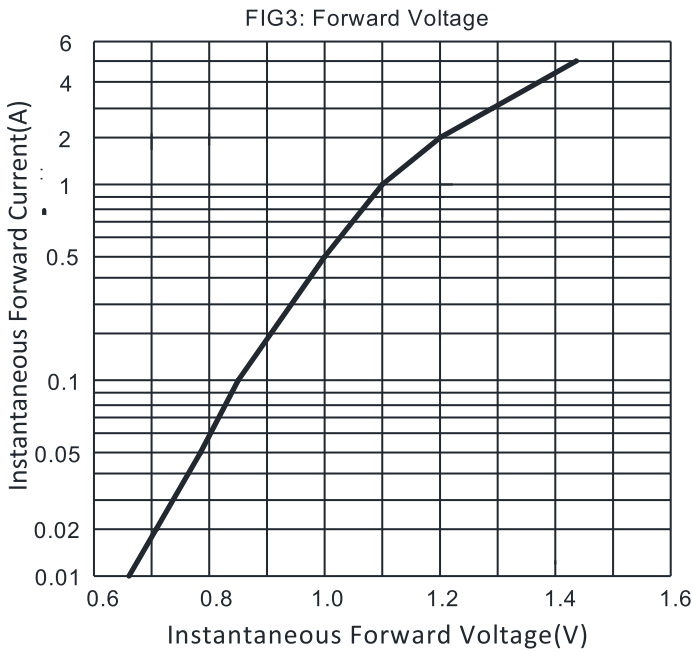
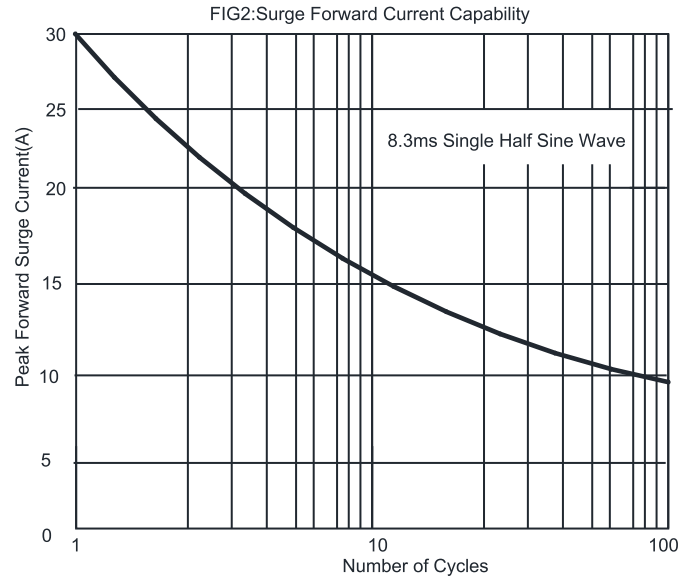
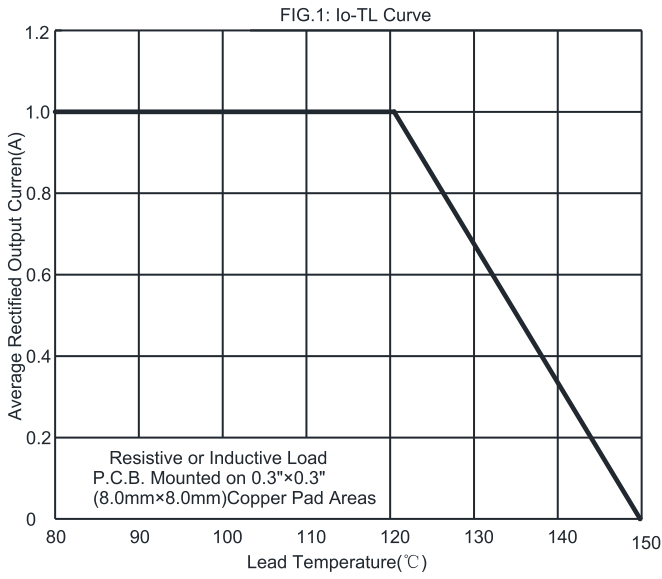
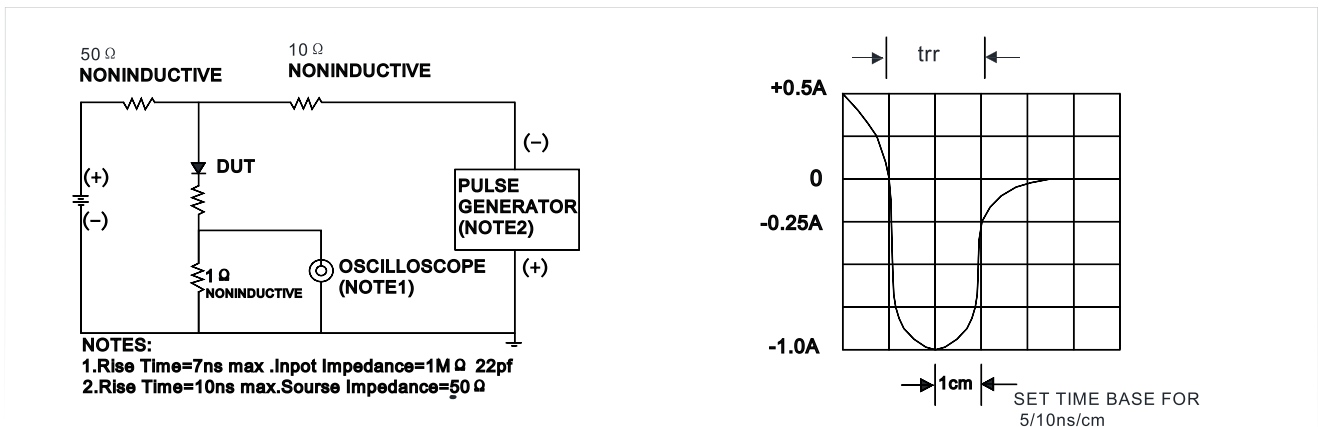


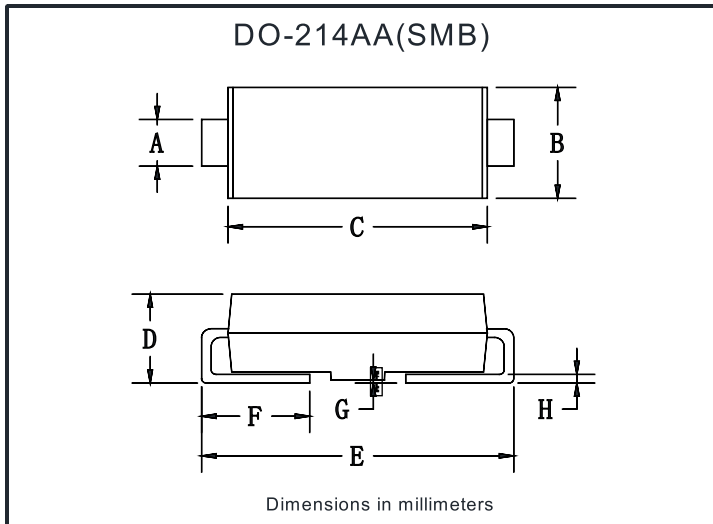
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■ **PACKAGING INFORMATION**

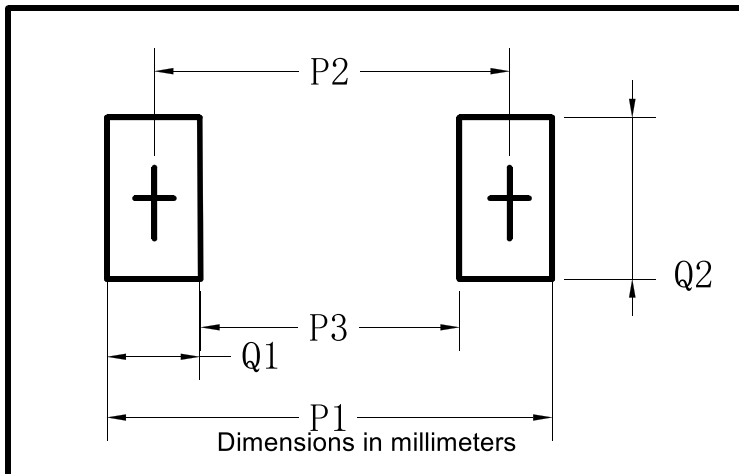
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
GR1AB-GR1MB	Omit for Standard	Approximate 0.096	3000	6000	48000	13" reel
GR1AB-GR1MB	X07	Approximate 0.096	750	3000	24000	7" reel

■ **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

■ **SUGGESTED PAD LAYOUT**



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