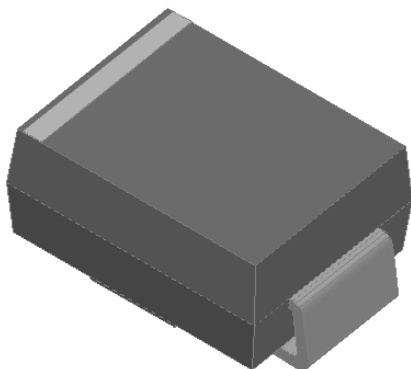


Surface Mount General Purpose Rectifier

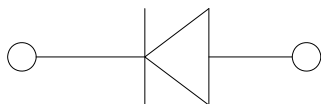


Features

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

Typical Applications

For use in general purpose 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	S5AB	S5BB	S5DB	S5GB	S5JB	S5KB	S5MB
Device marking code			S5AB	S5BB	S5DB	S5GB	S5JB	S5KB	S5MB
Maximum Repetitive peak reverse voltage	V_{RRM}	V	50	100	200	400	600	800	1000
Maximum RMS Voltage	V_{RMS}	V	35	70	140	280	420	560	700
Maximum DC Blocking Voltage	V_{DC}	V	50	100	200	400	600	800	1000
Average rectified output current @60Hz sine wave, resistance load, TL (Fig.1)	I_O	A	5.0						
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, Tj=25°C	I_{FSM}	A	150						
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25°C			300						
Current squared time @1ms≤t≤8.3ms Tj=25°C	I^2t	A ² s	94						
Storage temperature	T_{stg}	°C	-55 ~ +150						
Junction temperature	T_j	°C	-55 ~ +150						

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	S5AB	S5BB	S5DB	S5GB	S5JB	S5KB	S5MB
Maximum instantaneous forward voltage	V_F	V	$I_{FM}=5.0A$	1.1						
Maximum DC reverse current at rated DC blocking voltage	I_R	μA	Tj=25°C	5						
			Tj=125°C	100						
Typical junction capacitance	C_j	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	34						

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

PARAMETER	SYMBOL	UNIT	S5AB	S5BB	S5DB	S5GB	S5JB	S5KB	S5MB
Typical Thermal resistance	R _{θJ-A}	°C/W	80 ⁽¹⁾						
	R _{θJ-L}		35 ⁽¹⁾						
	R _{θJ-C}		30 ⁽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_L Curve

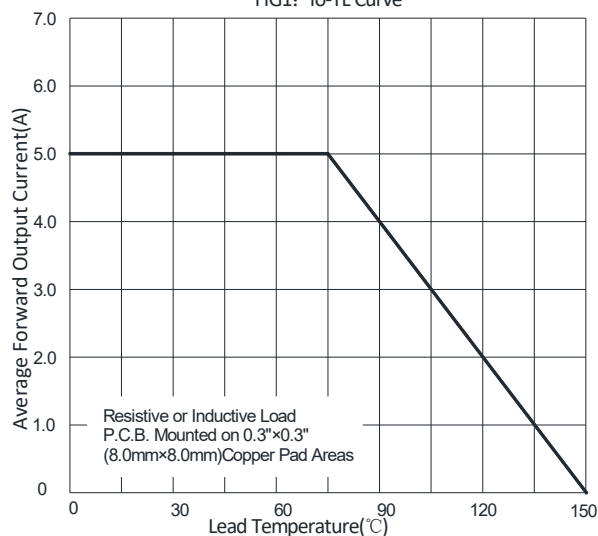


FIG2: Surge Forward Current Capability

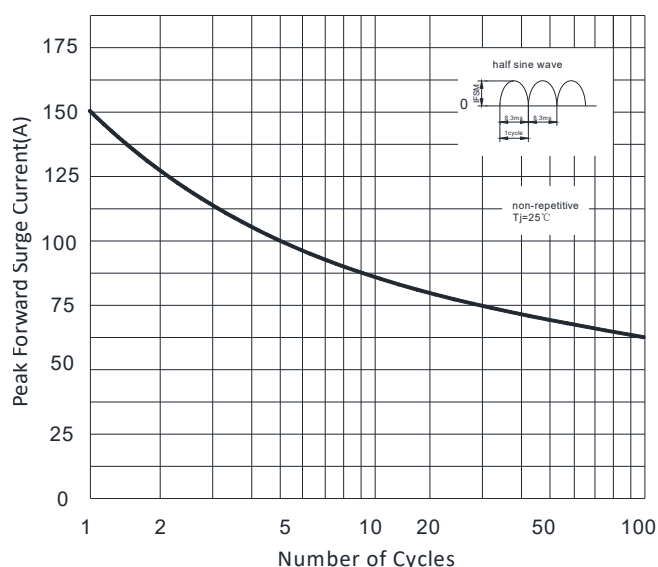


FIG3: Typical Forward Voltage

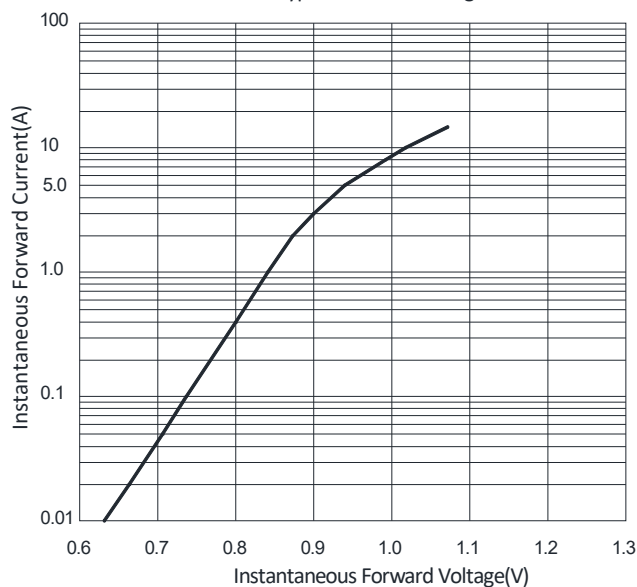


FIG4: Typical Reverse Characteristics

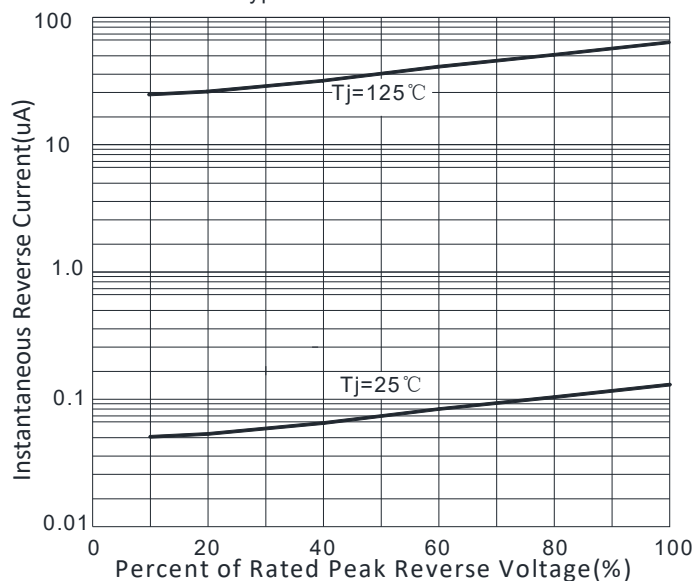
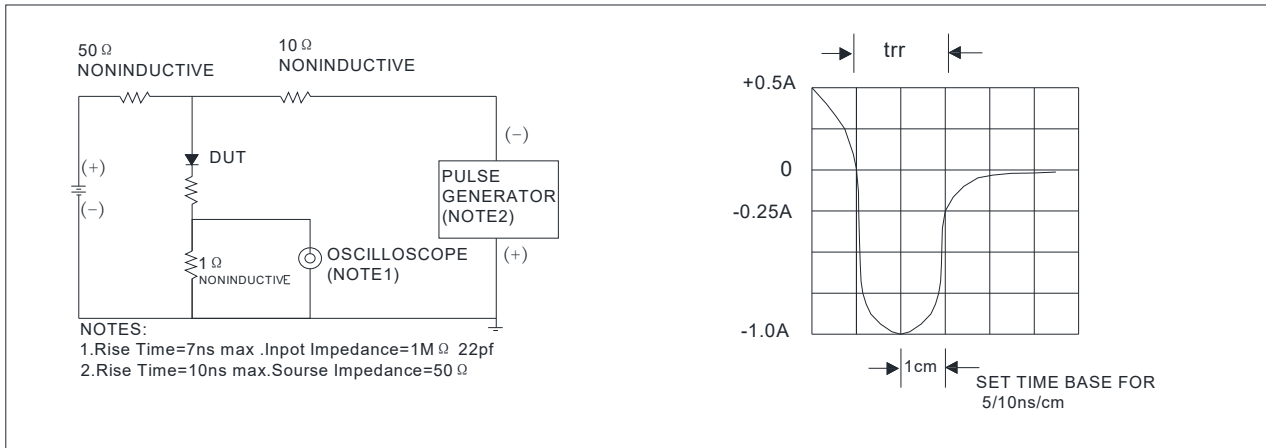
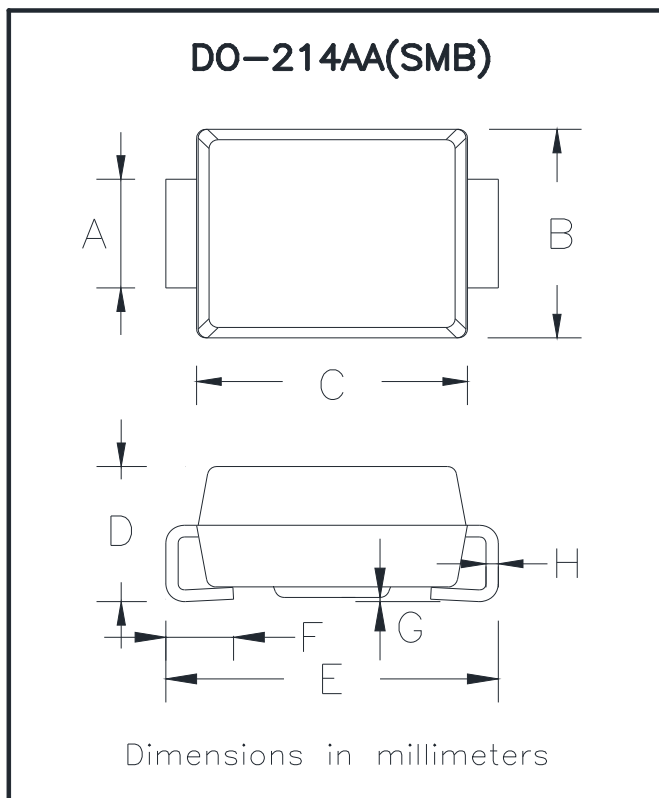


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

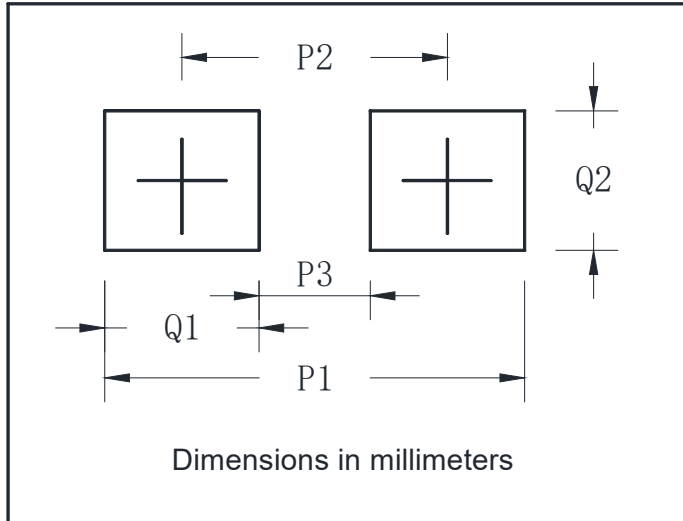


■ Outline Dimensions



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