

DATA SHEET

GENERAL SERIES RECTIFIER
GENERAL PURPOSE

S1 SERIES

RoHS compliant & Halogen free

Product specification— July 26, 2023 V.0



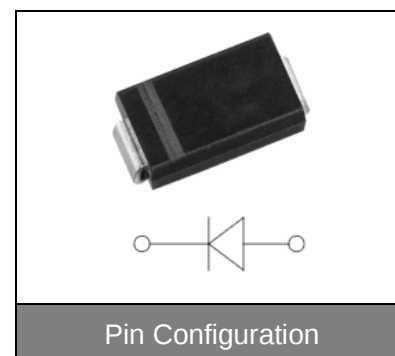
General Series Rectifier

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

Applications

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



Mechanical Data

- Package: DO-214AC (SMA) 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	SYMBOLS	S1A	S1B	S1D	S1G	S1J	S1K	S1M	UNITS
Marking Code	/	S1A	S1B	S1D	S1G	S1J	S1K	S1M	/
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Average rectified output current @60Hz sine wave, resistance load, TL (Fig.1)	I_O	1.0							A
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, $T_j=25^\circ\text{C}$	I_{FSM}	30							A
Current squared time @1ms≤t≤8.3ms $T_j=25^\circ\text{C}$	I^2t	3.7							A ² s
Typical Thermal Resistance	$R_{\theta JA}^{(1)}$	95							°C/W
Storage temperature	T_{stg}	-55 ~ +150							°C
Junction temperature	T_j	-55 ~ +150							°C

Note: (1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

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

PARAMETER	SYMBOLS	TEST CONDITIONS	S1A	S1B	S1D	S1G	S1J	S1K	S1M	UNITS
Maximum instantaneous forward voltage	VF	I _{FM} =1.0A	1.1							V
Maximum DC reverse current at rated DC blocking voltage	IR	@T _a =25°C	10							uA
		@T _a =125°C	50							

Typical Characteristics Curves

Figure 1. Io-TL Curve

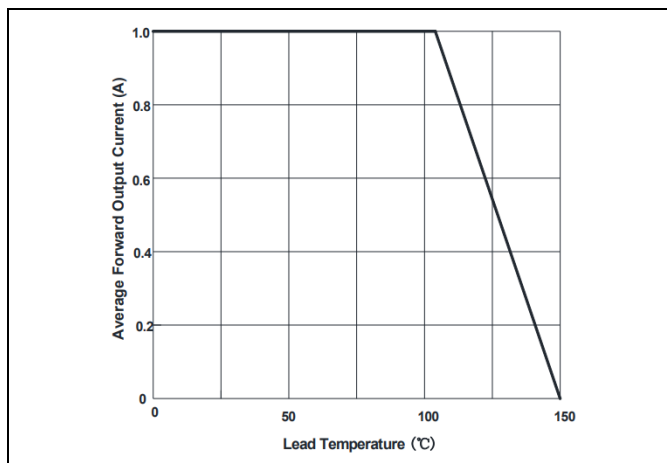


Figure 2. Forward Surge Current Capability

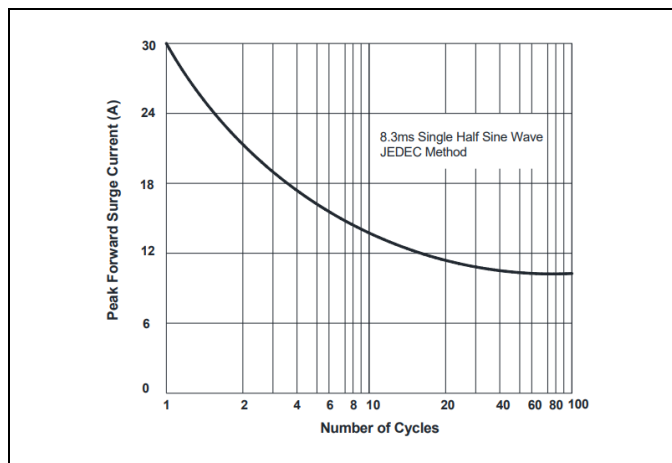


Figure 3. Typical Forward Voltage

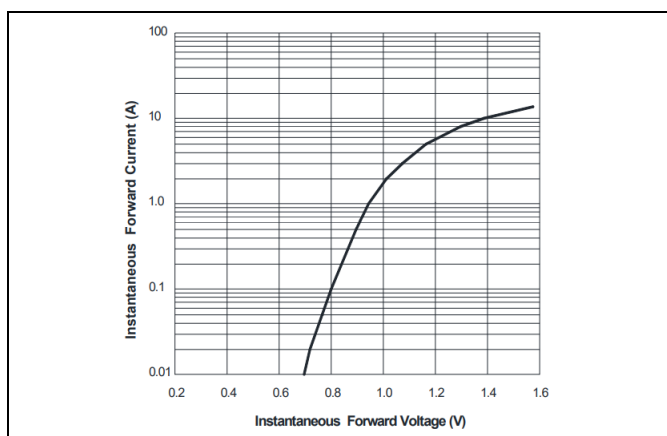
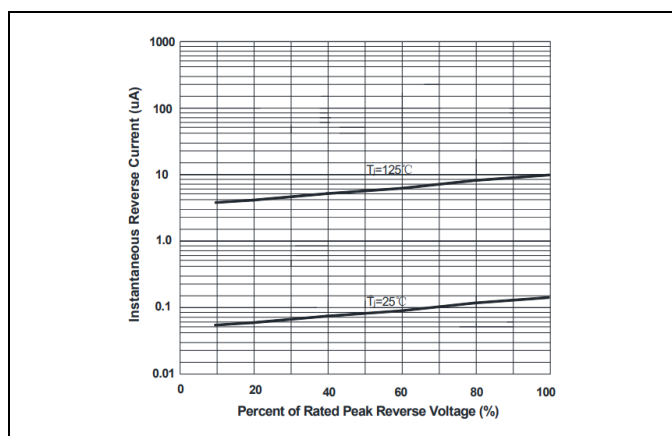
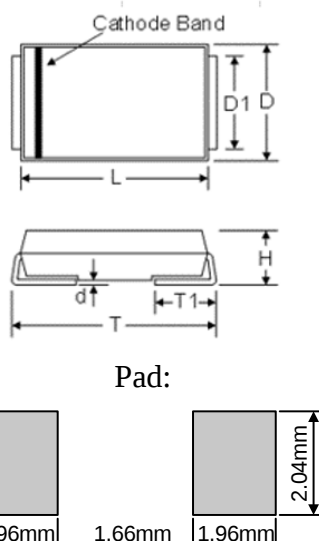


Figure 4. Typical Reverse Characteristics



Dimensions (SMA /DO-214AC)

Product	Symbol	Millimeters		Inches	
		Min.	Max.	Min.	Max.
	L	3.99	4.75	0.157	0.187
	D	2.40	2.83	0.095	0.112
	D1	1.20	1.65	0.047	0.065
	T	4.93	5.66	0.194	0.223
	T1	0.76	1.52	0.030	0.060
	d	0.15	0.31	0.006	0.012
	H	1.90	2.42	0.075	0.095

Packaging

Tape	Symbol	Dimension (mm)
	W	12.0±0.15
	P0	4.00±0.10
	P1	4.00±0.10
	P2	2.00±0.10
	D0	Φ1.55±0.05
	D1	Φ1.55±0.05
	E	1.75±0.05
	F	5.50±0.10
	A0	2.79±0.10
	B0	5.33±0.10
	K0	2.36±0.10
	T	0.22±0.10
13" Reel	D5	Φ330±1.0
	D6	Φ17.0+1/-0.5
	H	3.0max.
	W2	16.0±0.5
	Quantity: 5000pcs	

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