

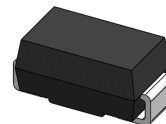
1A,50-600V Superfast Rectifiers

Features

- Low leakage current
- Low forward voltage drop
- Glass passivated chip junction
- Moisture sensitivity: level 1, per J-STD-020
- Halogen-free according to IEC 61249-2-21 definition
- High temperature soldering guaranteed: 260°C/10 seconds
- AEC-Q101 qualified



RoHS
COMPLIANT



SMA(DO-214AC)

Applications

For use in secondary rectification and freewheeling for superfast switching speeds of converters in consumer applications.

Maximum Ratings & Electrical Characteristics (T _A =25°C unless otherwise noted)									
Parameter	Symbol	AES1A	AES1B	AES1C	AES1D	AES1F	AES1G	AES1J	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	150	200	300	400	600	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	420	V
Maximum DC blocking voltage	V _{DC}	50	100	150	200	300	400	600	V
Maximum average forward rectified current	I _{F(AV)}	1							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I _{FSM}	30							A
Operating junction temperature range	T _J	-55 to +150							°C
Storage temperature range	T _{STG}	-55 to +150							°C

Thermal-Mechanical Specifications (T _A =25°C unless otherwise noted)			
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R _{θJA}	90	°C /W
Thermal Resistance, Junction to Case	R _{θJC}	20	°C /W
Thermal Resistance, Junction to Lead	R _{θJL}	25	°C /W



Electrical Specifications (T _A =25°C unless otherwise noted)										
Parameter	Symbol	Test Conditions	AES1A	AES1B	AES1C	AES1D	AES1F	AES1G	AES1J	Unit
Forward Drop Voltage	V _F	I _F =1A T _A =25°C	0.95				1.30		1.70	V
		I _F =1A T _A =125°C	0.85				0.95		1.15	
Reverse leakage current @V _R	I _R	T _J =25°C	5							uA
		T _J =125°C	100							
Typical junction capacitance	C _J	4.0 V 1 MHz	16.7				10		8.2	pF
Maximum reverse recovery time	t _{rr}	I _F =0.5A, I _R =1.0A, I _{RR} =0.25A	35							nS

Note:

1. Mounted on copper pad area of 0.2x0.2" (5.0 x 5.0mm) to each terminal.

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

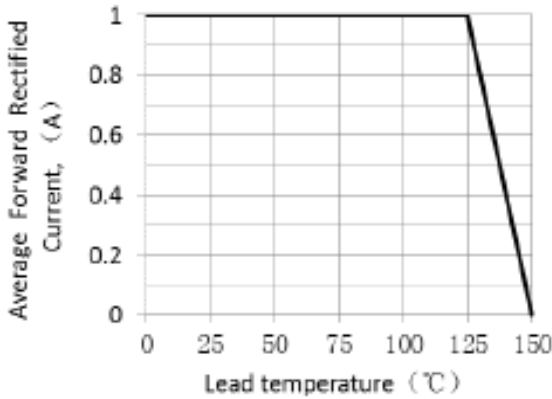


Figure 1. Forward Current Derating Curve

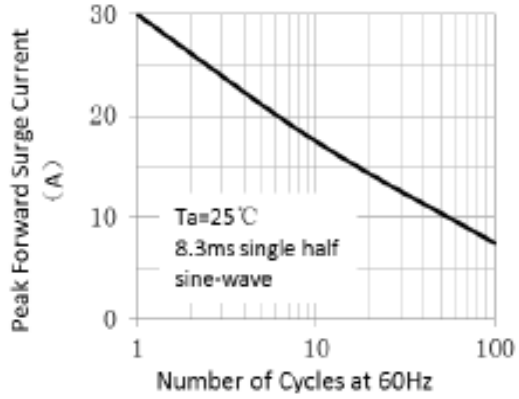


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

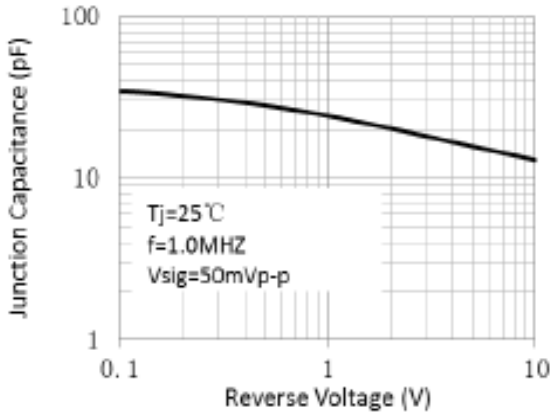


Figure 3. Typical Junction Capacitance

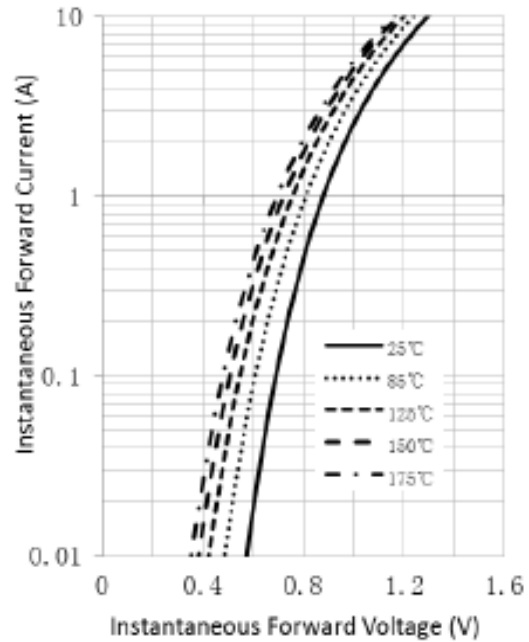


Figure 4. Typical Instantaneous Forward Characteristics

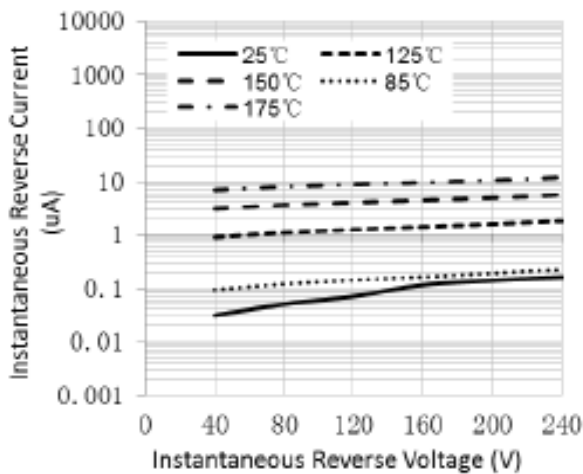
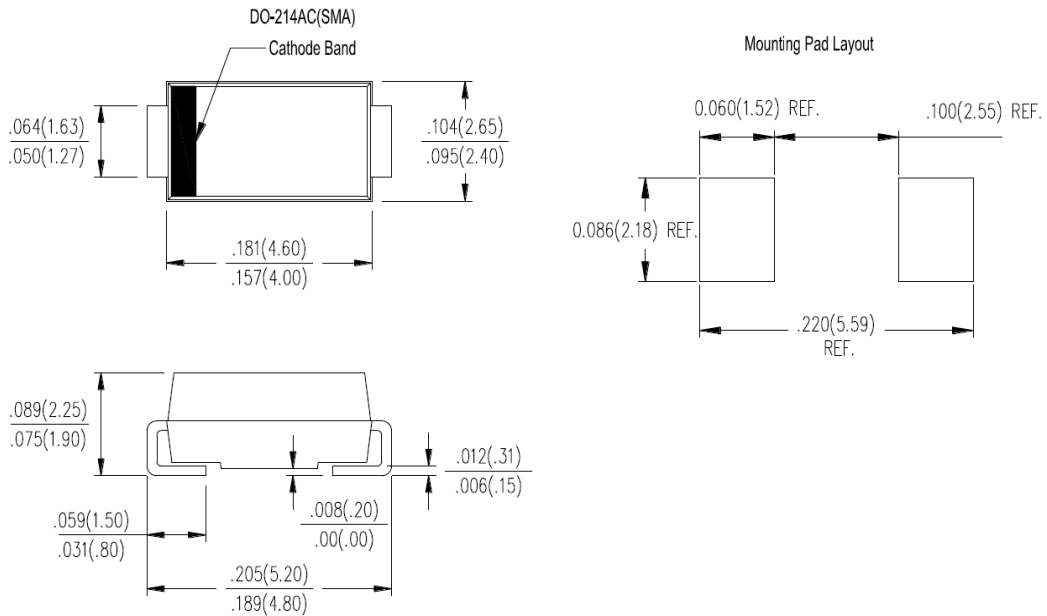


Figure 5. Typical Reverse Characteristics

Package Outline Dimensions

in inches (millimeters)

SMA (DO-214AC)



Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.01	Released Datasheet
Rev.B	2023.10.24	Modify document format

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