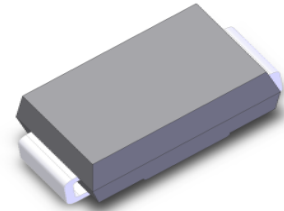


Features

- Glass passivated superfast recovery Rectifiers
- Low leakage current
- Moisture sensitivity: level 1, per J-STD-020
- Solder dip 260 °C, 10 s
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21 definition
- AEC-Q101 qualified



DO-214AC(SMA)

Typical Applications

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

Maximum Ratings (TA = 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	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30							A
Rating for fusing(t<8.3ms)	I^2t	3.8							A ² sec
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150							°C

Electrical Characteristics (TA = 25 °C unless otherwise noted)											
Parameter	Test Conditions	Symbol	AES1A	AES1B	AES1C	AES1D	AES1F	AES1G	AES1J	Unit	
Typical instantaneous forward voltage	$I_F=1.0A, T_A=25^\circ C$	V_F	0.95				1.30		1.70		Volts
	$I_F=1.0A, T_A=125^\circ C$		0.85				1.05		1.30		
Maximum DC reverse current at rated DC blocking voltage	$T_A=25^\circ C$	I_R	5.0							μA	
	$T_A=125^\circ C$		100								
Maximum reverse recovery time	$I_F=0.5A, I_R=1.0A, I_{RR}=0.25A$	t_{rr}	35								nS
Typical junction capacitance	4.0 V, 1 MHz	C_J	16.7				12.1		8.2		pF
Typical thermal resistance ¹⁾	junction to ambie	$R_{\theta JA}$	70							$^\circ C/W$	
	junction to case	$R_{\theta JC}$	36								
	junction to lead	$R_{\theta JL}$	2.2								

Note1): Mounted on PCB with 5*5mm copper pad, 2 OZ, FR4 PCB;

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

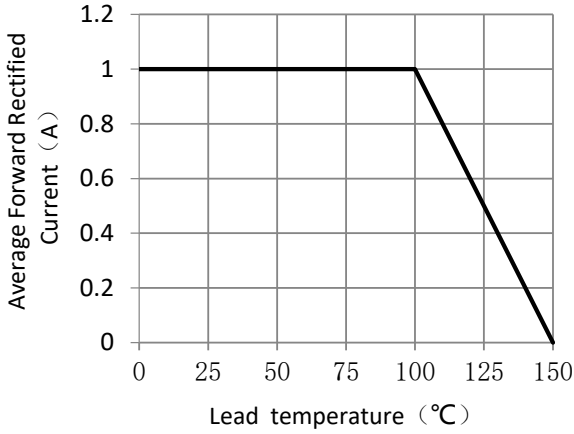


Figure 1. Forward Current Derating Curve

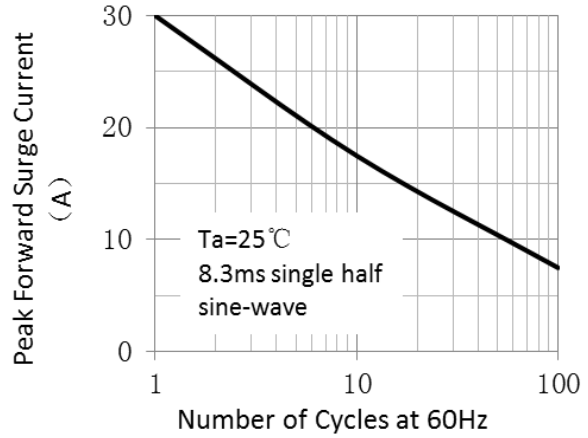


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

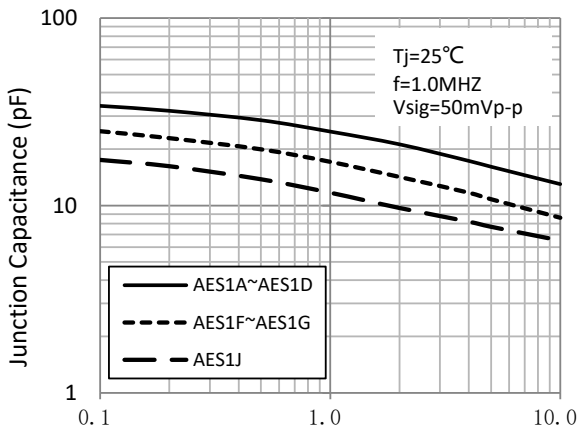


Figure 3. Typical Junction Capacitance

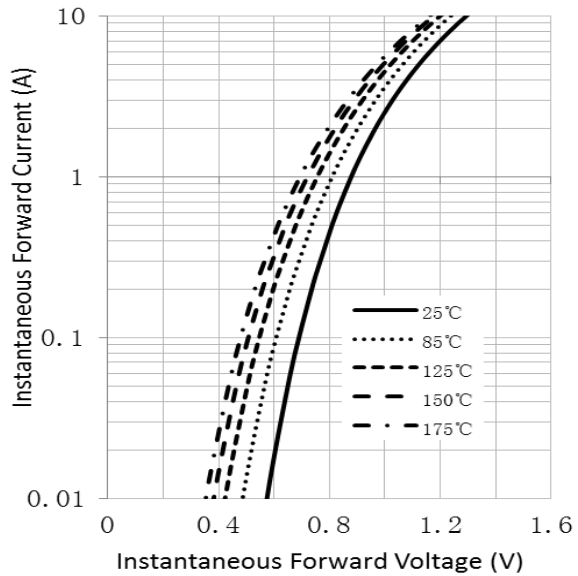


Figure 4. Typical Instantaneous Forward Characteristics (AES1A~AES1D)

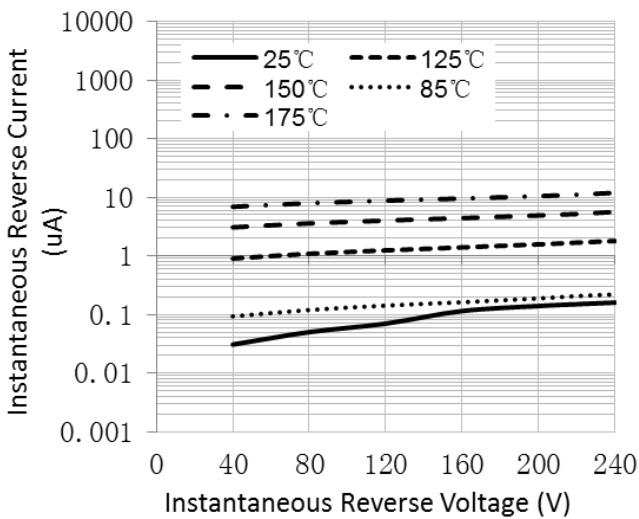


Figure 5. Typical Reverse Characteristics (AES1A~AES1D)

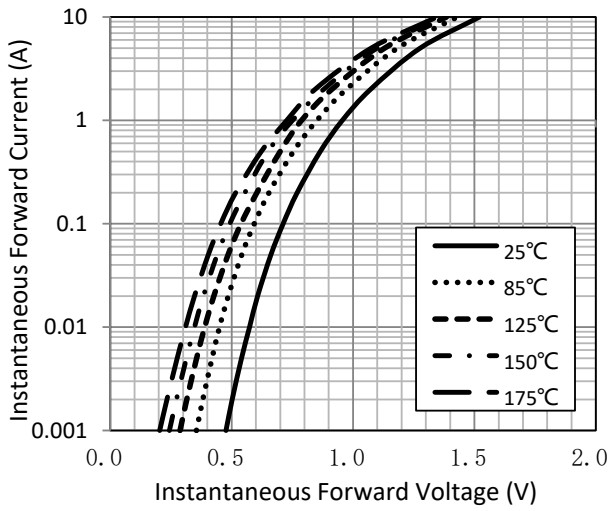


Figure 6. Typical Instantaneous Forward Characteristics (AES1F~AES1G)

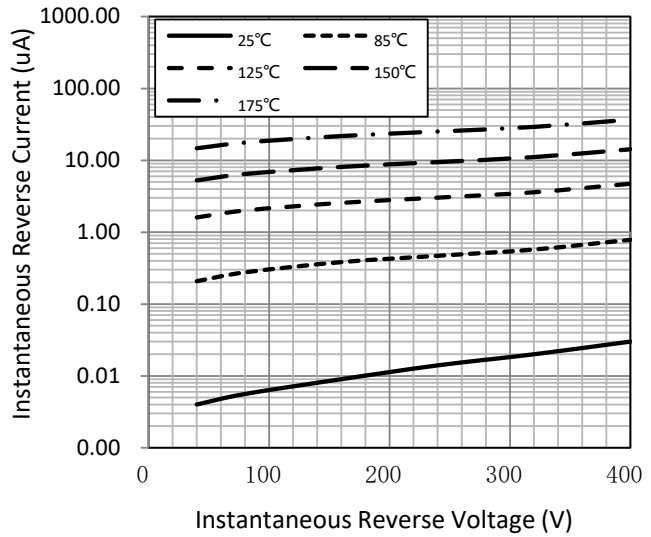


Figure 7. Typical Reverse Characteristics (AES1F~AES1G)

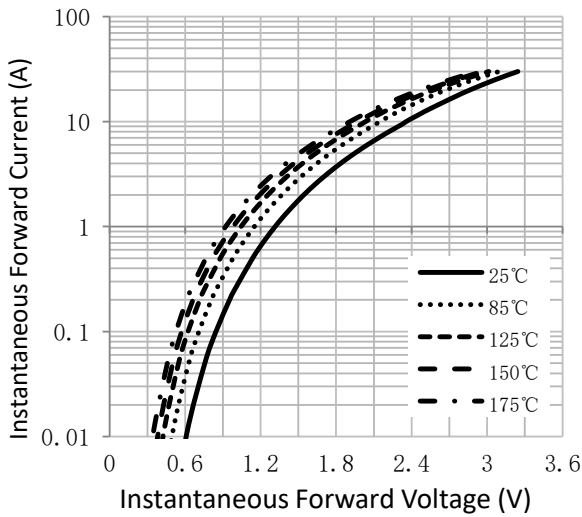


Figure 8. Typical Instantaneous Forward Characteristics (AES1J)

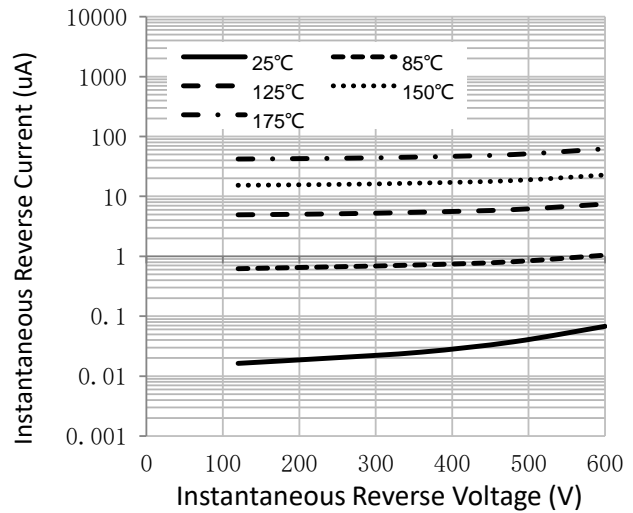
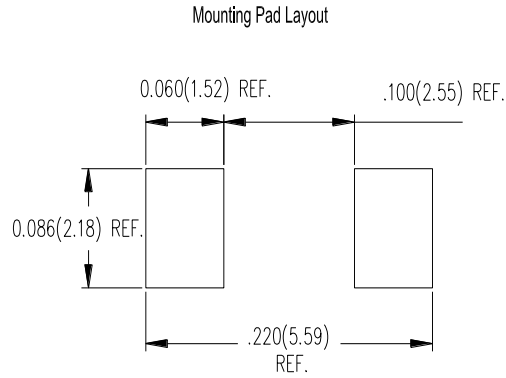
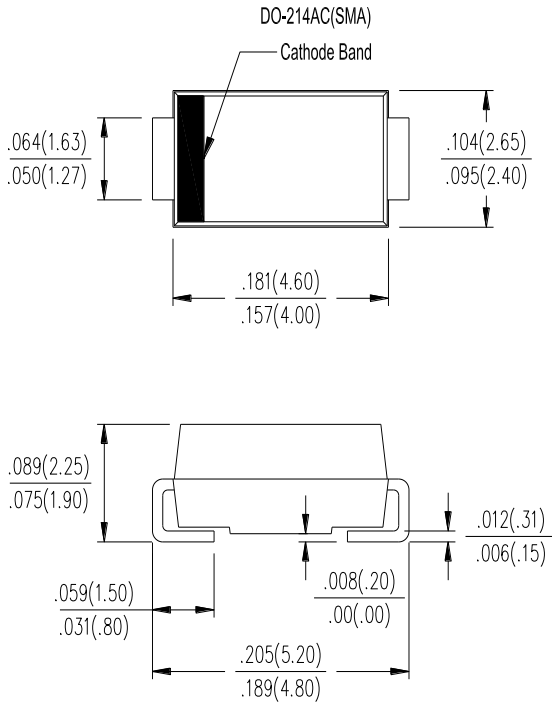


Figure 9. Typical Reverse Characteristics (AES1J)

Package Outline Dimensions

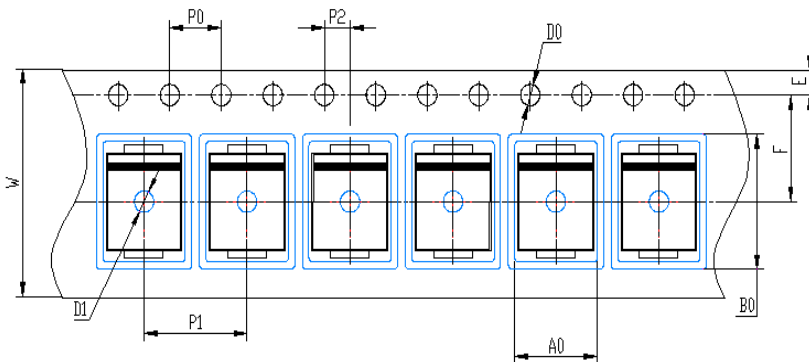
in inches (millimeters)



Packing Information

7500 pcs/Reel, 18 Reels/Box; 12mm Tape, 13" Reel

Tape & Reel Specification



Symbols	SMA (mm)
W	12 ± 0.2
E	1.75 ± 0.1
F	5.5 ± 0.05
D0	1.5 ± 0.1
D1	$1.50 +0.1/-0$
P0	4.0 ± 0.1
P1	4.0 ± 0.1
P2	2.0 ± 0.05
A0	2.65 ± 0.1
B0	5.25 ± 0.1



AES1A thru AES1J

Surface Mount Glass Passivated Superfast Rectifier
Reverse Voltage 50~600V Forward Current 1A

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