

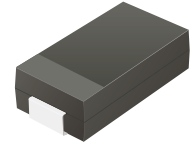
## AES1A-HF Thru. AES1K-HF

Reverse Voltage: 50 to 800 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen Free

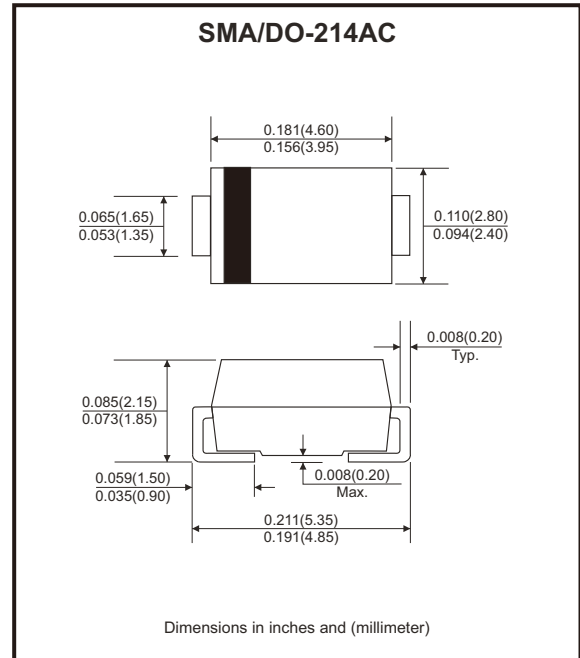


### Features

- For surface mounted applications.
- Ideal for automated placement.
- Low forward voltage drop.
- High surge current capability.
- AEC-Q101 Qualified.

### Mechanical data

- Case: SMA, molded plastic.
- Epoxy: UL flammability classification rating 94V-0.
- Terminals: Solder plated, solderable per MIL-STD-202, method 208.
- Polarity: Color band denoted cathode end.



### Circuit Diagram



### Maximum Ratings (at TA=25°C unless otherwise specified)

Parameter	Symbols	AES1A-HF	AES1B-HF	AES1C-HF	AES1D-HF	AES1E-HF	AES1G-HF	AES1H-HF	AES1J-HF	AES1K-HF	Units
Peak repetitive reverse voltage	V <sub>RRM</sub>	50	100	150	200	300	400	500	600	800	V
RMS reverse voltage	V <sub>RMS</sub>	35	70	105	140	210	280	350	420	560	V
DC blocking voltage	V <sub>DC</sub>	50	100	150	200	300	400	500	600	800	V
Max. average forward output current	I <sub>F(AV)</sub>	1									A
Peak forward surge current, 8.3ms single half sine-wave	I <sub>FSM</sub> AES1K-HF @T <sub>J</sub> =25°C	30									A
Typical thermal resistance (Note 1)	R <sub>θJA</sub>	70									°C/W
	R <sub>θJC</sub>	25									
	R <sub>θJL</sub>	30									
Operating junction temperature range	T <sub>J</sub>	-55 ~ +150									°C
Storage temperature range	T <sub>STG</sub>	-55 ~ +150									°C

Notes: 1. Device mounted on PCB with 10mm x 20mm x 0.1mm copper pad areas.

## Electrical Characteristics (at TA=25°C unless otherwise specified)

Parameter	Symbols	Test Conditions		Typ	Max	Units
Max. instantaneous forward voltage	V <sub>F</sub>	I <sub>F</sub> =1.0A	@T <sub>A</sub> =25°C	AES1A-HF AES1B-HF AES1C-HF AES1D-HF	0.98	V
				AES1E-HF AES1G-HF	1.25	
				AES1H-HF AES1J-HF	1.7	
				AES1K-HF	2.5	
Max. reverse current	I <sub>R</sub>	Rated V <sub>R</sub>	@T <sub>A</sub> =25°C	AES1A-HF ~ AES1J-HF AES1K-HF	5 10	μA
			@T <sub>A</sub> =125°C		200	
Max. reverse recovery time	t <sub>rr</sub>	I <sub>F</sub> =0.5A, I <sub>RM</sub> =1A, I <sub>R(REC)</sub> =0.25A			35	ns

## Rating and Characteristic Curves (AES1A-HF Thru. AES1D-HF)

Fig.1 - Forward Current Derating Curve

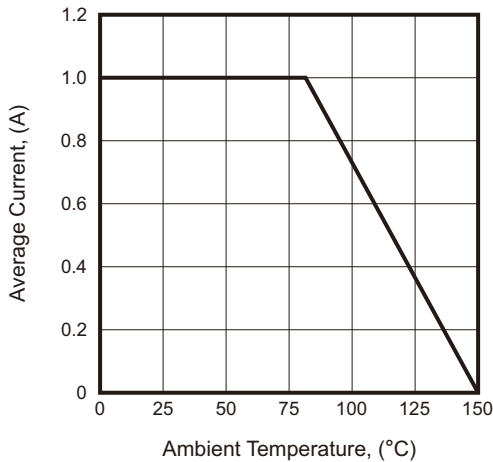


Fig.2 - Surge Current Derating Curve

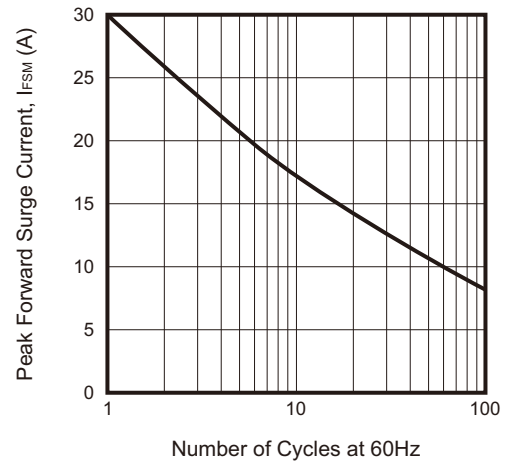


Fig.3 - Typical Forward Voltage Characteristic

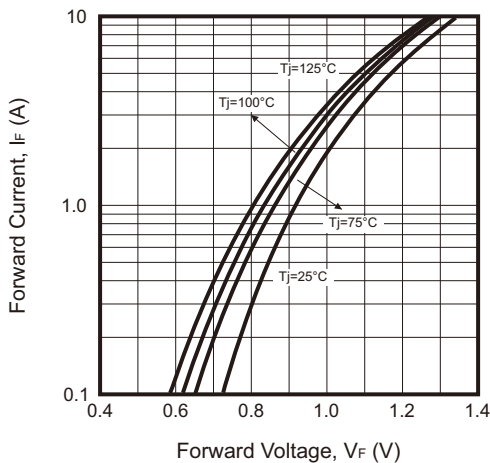
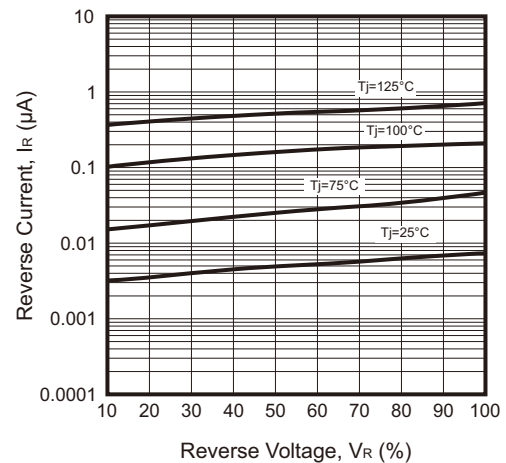


Fig.4 - Typical Reverse Characteristic



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## Rating and Characteristic Curves (AES1E-HF Thru. AES1G-HF)

Fig.5 - Forward Current Derating Curve

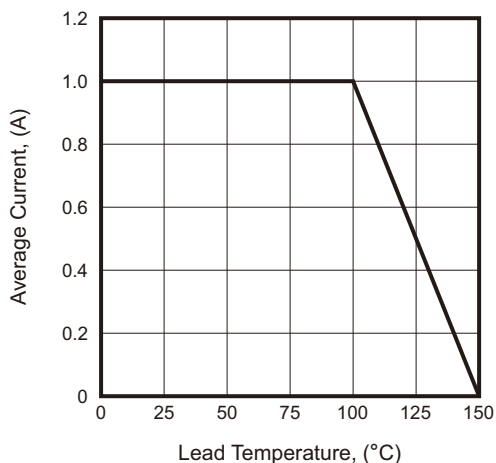


Fig.6 - Surge Current Derating Curve

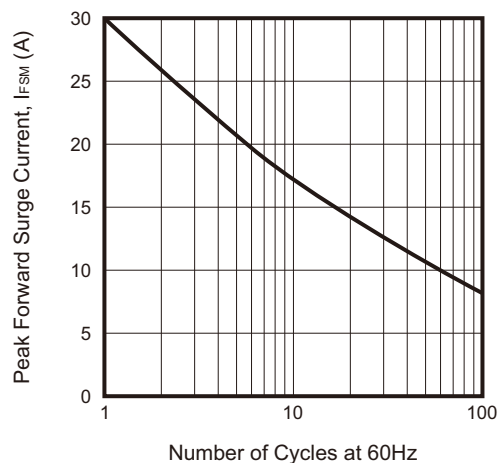


Fig.7 - Typical Forward Voltage Characteristic

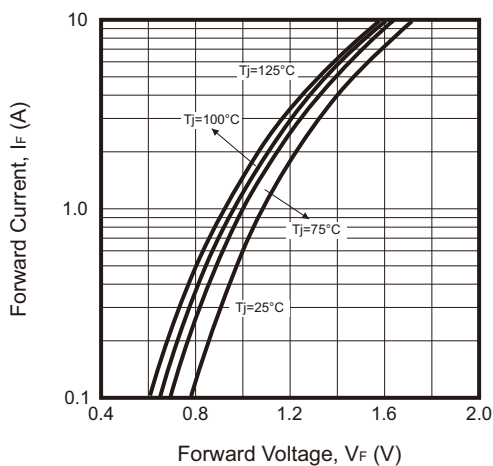
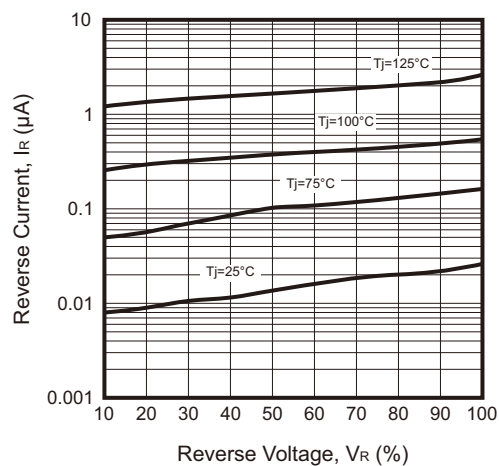


Fig.8 - Typical Reverse Characteristic



## Rating and Characteristic Curves (AES1H-HF Thru. AES1J-HF)

Fig.9 - Forward Current Derating Curve

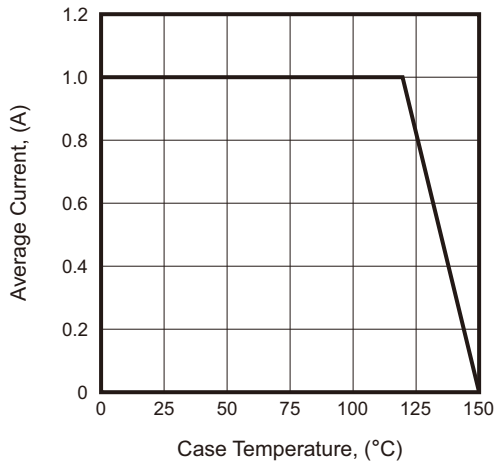


Fig.10 - Surge Current Derating Curve

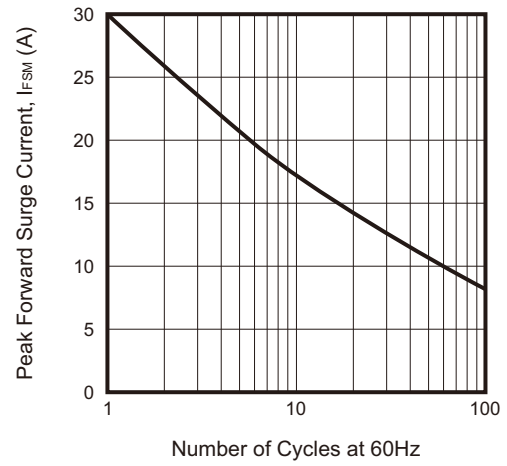


Fig.11 - Typical Forward Voltage Characteristic

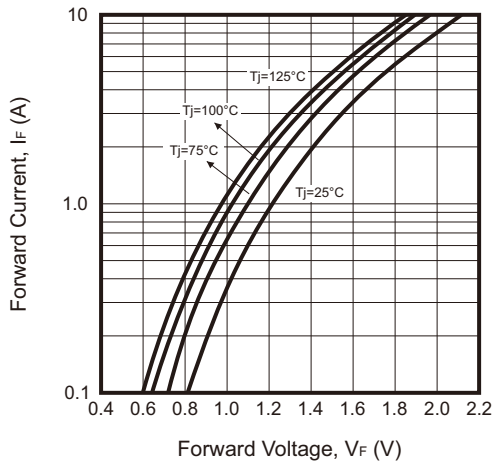
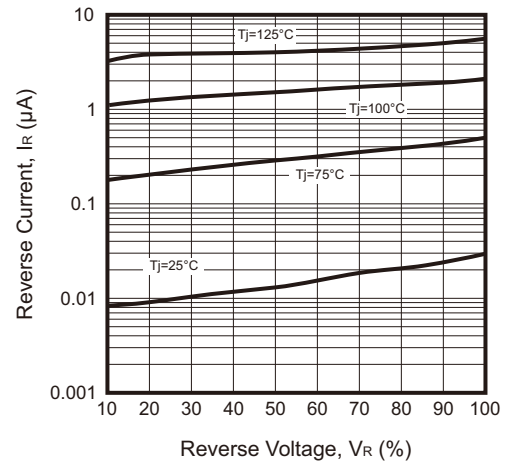


Fig.12 - Typical Reverse Characteristic



## Rating and Characteristic Curves (AES1K-HF)

Fig.13 - Forward Current Derating Curve

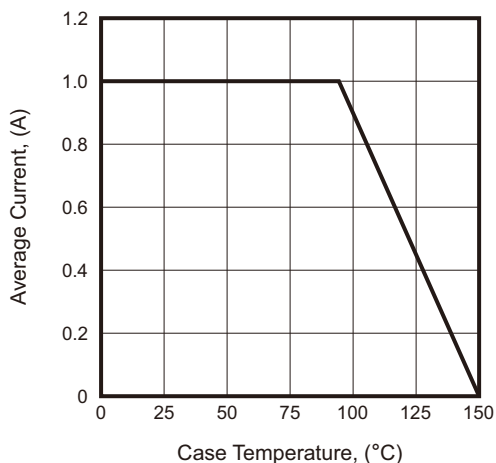


Fig.14 - Surge Current Derating Curve

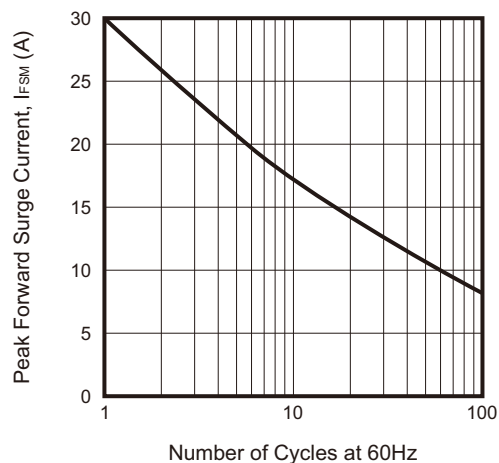


Fig.15 - Typical Forward Voltage Characteristic

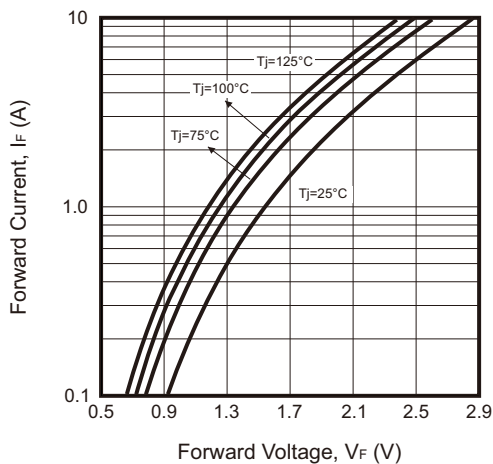
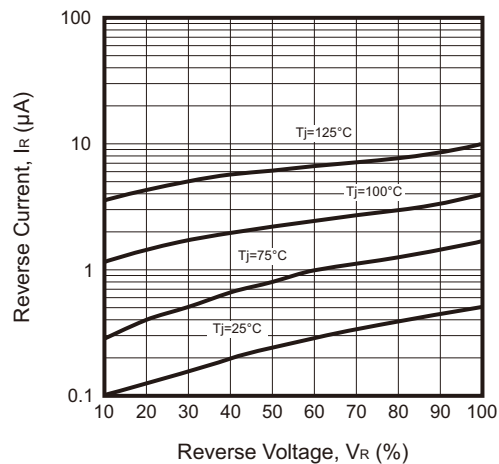
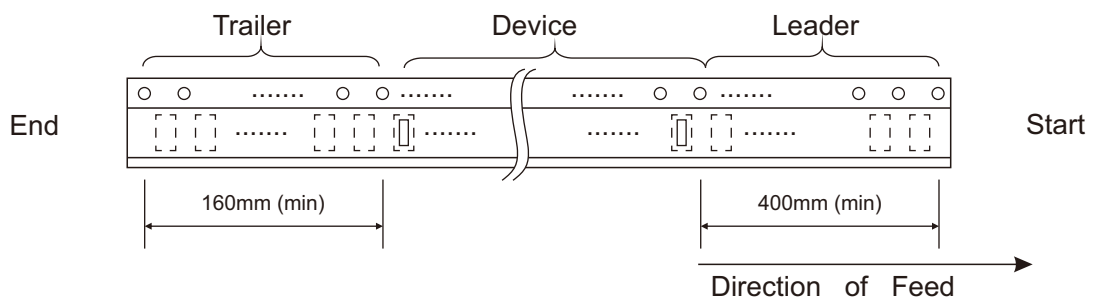
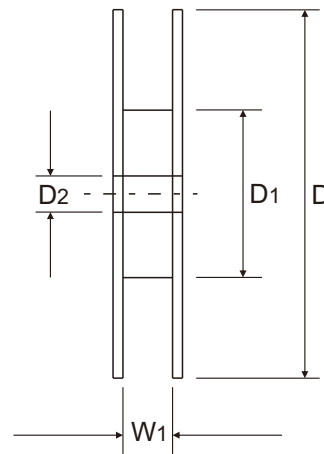
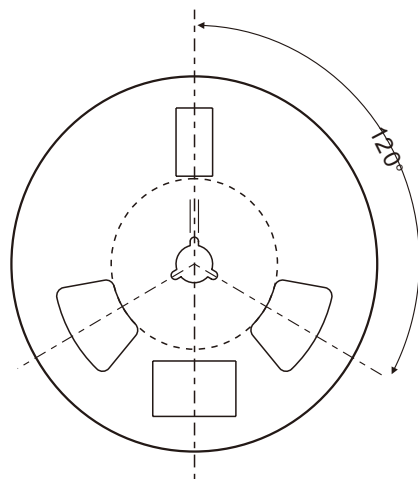
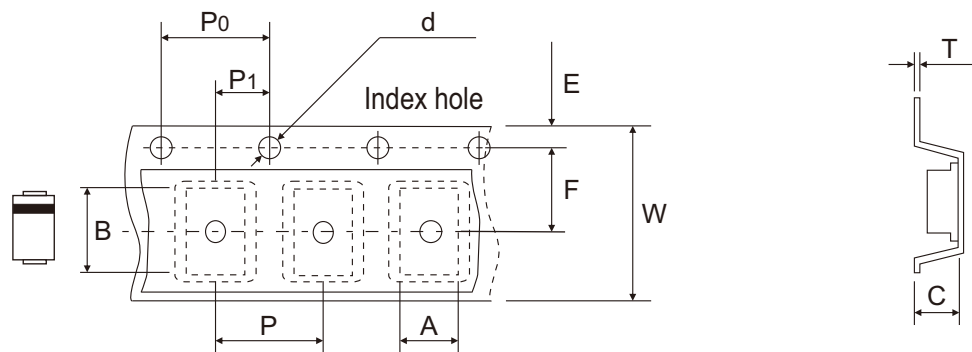


Fig.16 - Typical Reverse Characteristic



## Reel Taping Specification



DO-214AC (SMA)	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.72 ± 0.10	5.27 ± 0.10	2.27 ± 0.10	1.55 ± 0.10	330 ± 1.00	75.00 ± 1.00	13.50 ± 0.50
	(inch)	0.107 ± 0.004	0.207 ± 0.004	0.089 ± 0.004	0.061 ± 0.004	12.992 ± 0.039	2.953 ± 0.039	0.531 ± 0.020

DO-214AC (SMA)	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	5.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.25 ± 0.05	12.00 ± 0.10	13.50 ± 1.00
	(inch)	0.069 ± 0.004	0.217 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.010 ± 0.002	0.472 ± 0.004	0.531 ± 0.039

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