

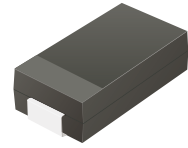
AES1A-HF Thru. AES1K-HF

Reverse Voltage: 50 to 800 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen Free

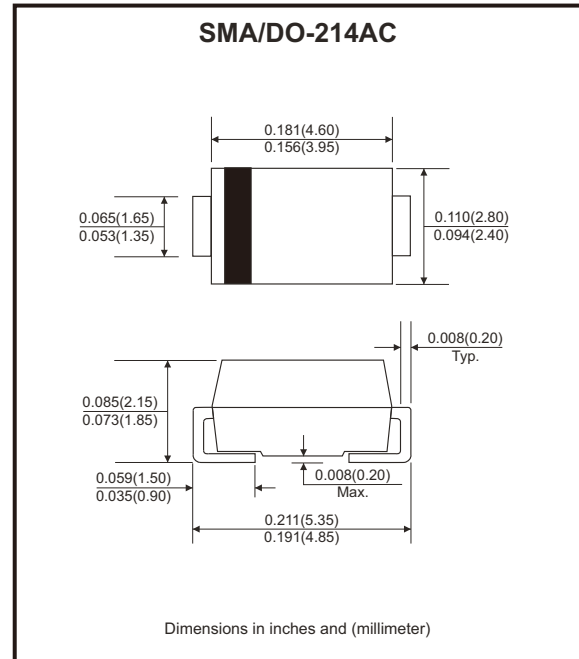


Features

- 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 _{RRM}	50	100	150	200	300	400	500	600	800	V
RMS reverse voltage		V _{RMS}	35	70	105	140	210	280	350	420	560	V
DC blocking voltage		V _{DC}	50	100	150	200	300	400	500	600	800	V
Max. average forward output current		I _{F(AV)}	1									A
Peak forward surge current, 8.3ms single half sine-wave	AES1K-HF @T _J =25°C	I _{FSM}	30									A
Typical thermal resistance (Note 1)		R _{θJA}	70									°C/W
		R _{θJC}	25									
		R _{θJL}	30									
Operating junction temperature range		T _J	-55 ~ +150									°C
Storage temperature range		T _{STG}	-55 ~ +150									°C

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

Electrical Characteristics (at $T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbols	Test Conditions			Typ	Max	Units
Max. instantaneous forward voltage	V_F	$I_F=1.0\text{A}$	@ $T_A=25^\circ\text{C}$	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_R	Rated V_R	@ $T_A=25^\circ\text{C}$	AES1A-HF ~ AES1J-HF AES1K-HF		5 10	μA
			@ $T_A=125^\circ\text{C}$			200	
Max. reverse recovery time	t_{rr}	$I_F=0.5\text{A}$, $I_{RM}=1\text{A}$, $I_{R(REC)}=0.25\text{A}$				35	ns

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

Fig.1 - Forward Current Derating Curve

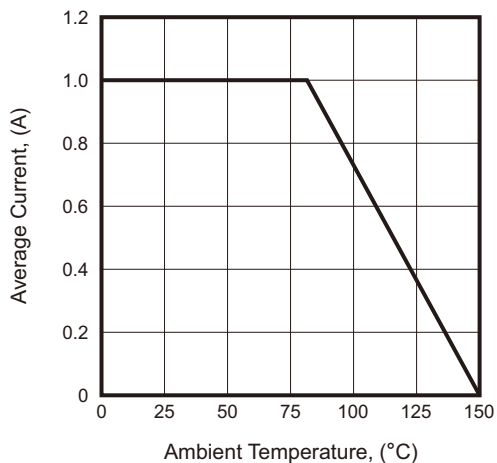


Fig.2 - Surge Current Derating Curve

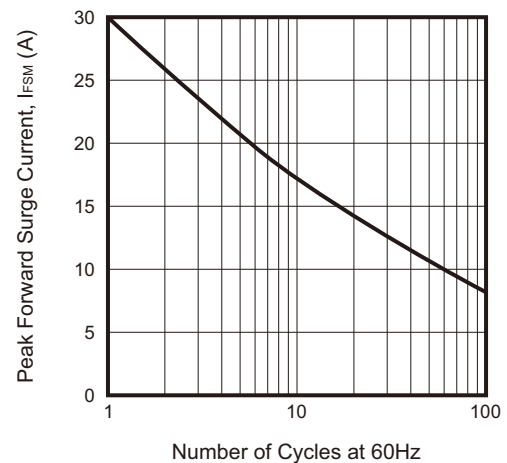


Fig.3 - Typical Forward Voltage Characteristic

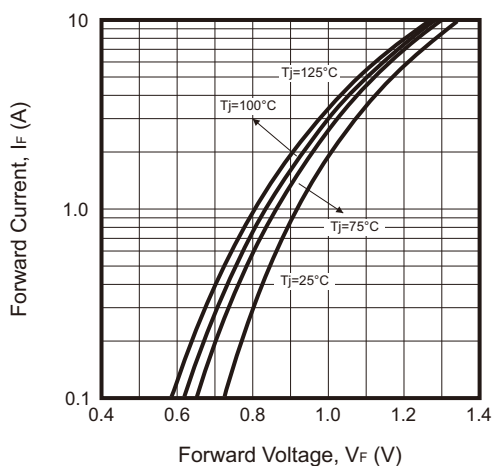
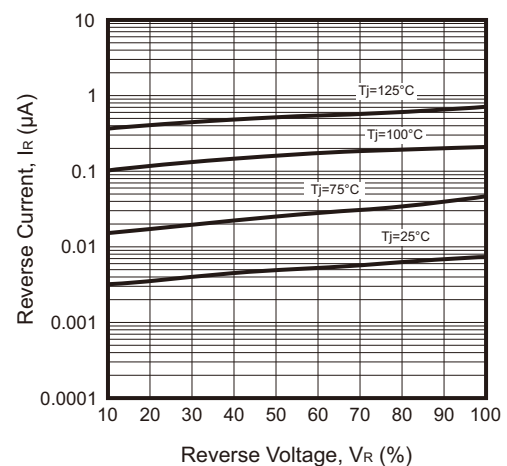


Fig.4 - Typical Reverse Characteristic



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

Fig.5 - Forward Current Derating Curve

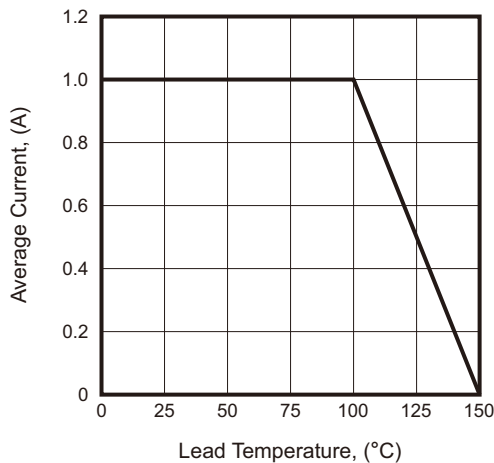


Fig.6 - Surge Current Derating Curve

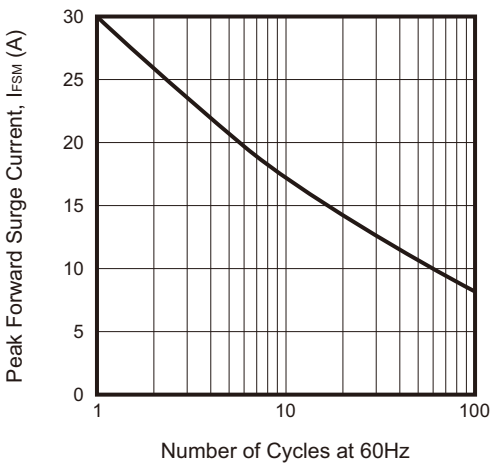


Fig.7 - Typical Forward Voltage Characteristic

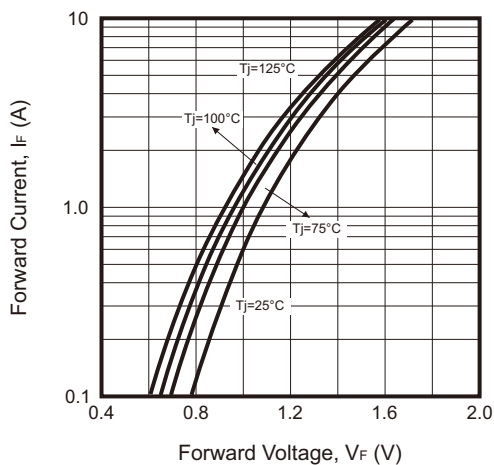
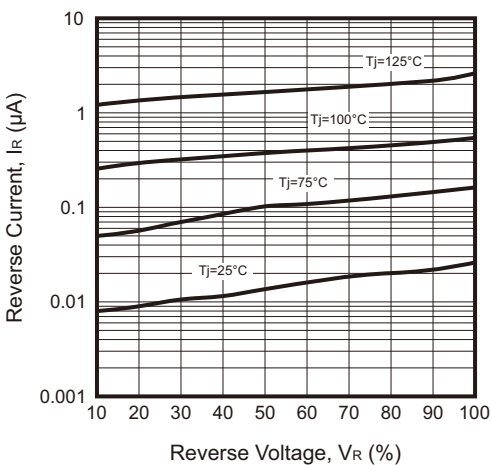


Fig.8 - Typical Reverse Characteristic



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

Fig.9 - Forward Current Derating Curve

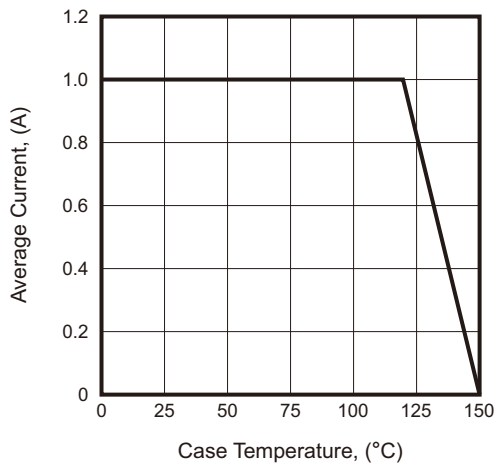


Fig.10 - Surge Current Derating Curve

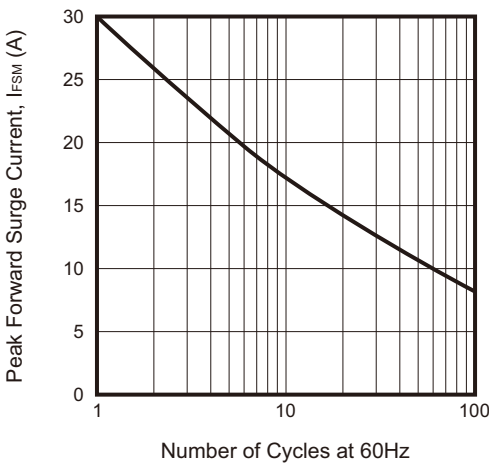


Fig.11 - Typical Forward Voltage Characteristic

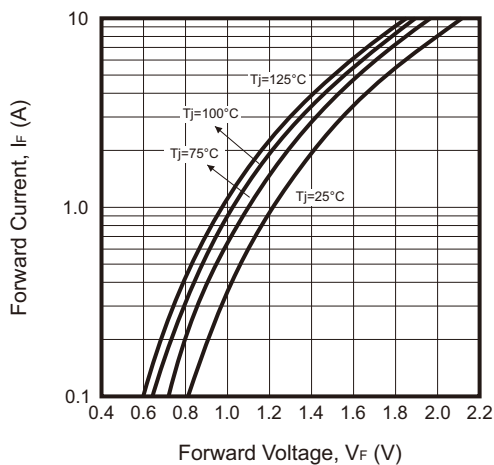
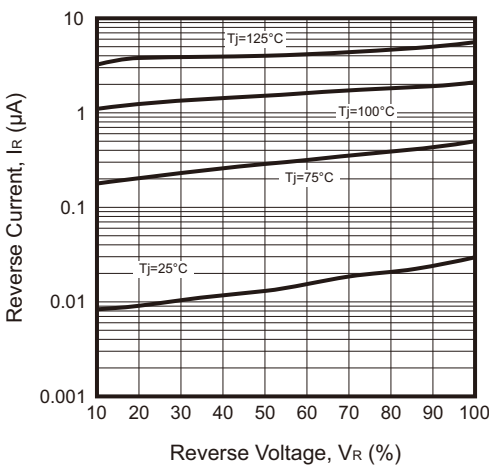


Fig.12 - Typical Reverse Characteristic



Rating and Characteristic Curves (AES1K-HF)

Fig.13 - Forward Current Derating Curve

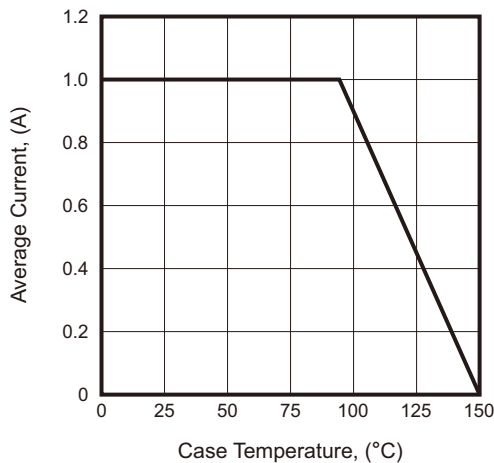


Fig.14 - Surge Current Derating Curve

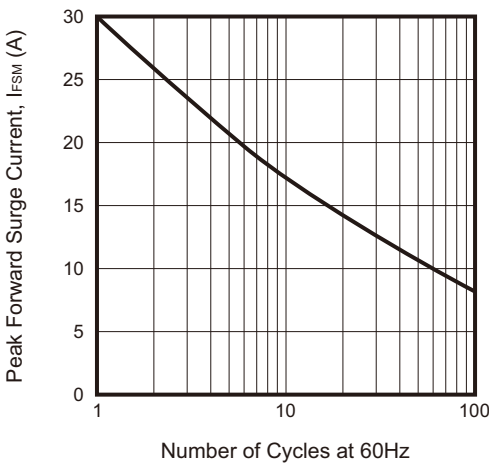


Fig.15 - Typical Forward Voltage Characteristic

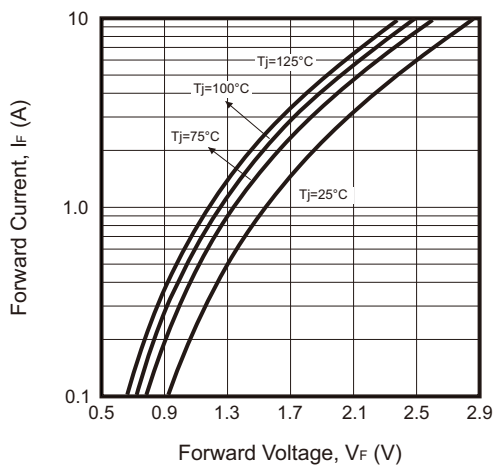
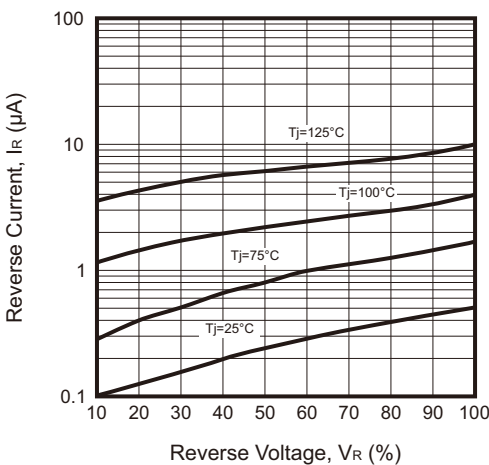
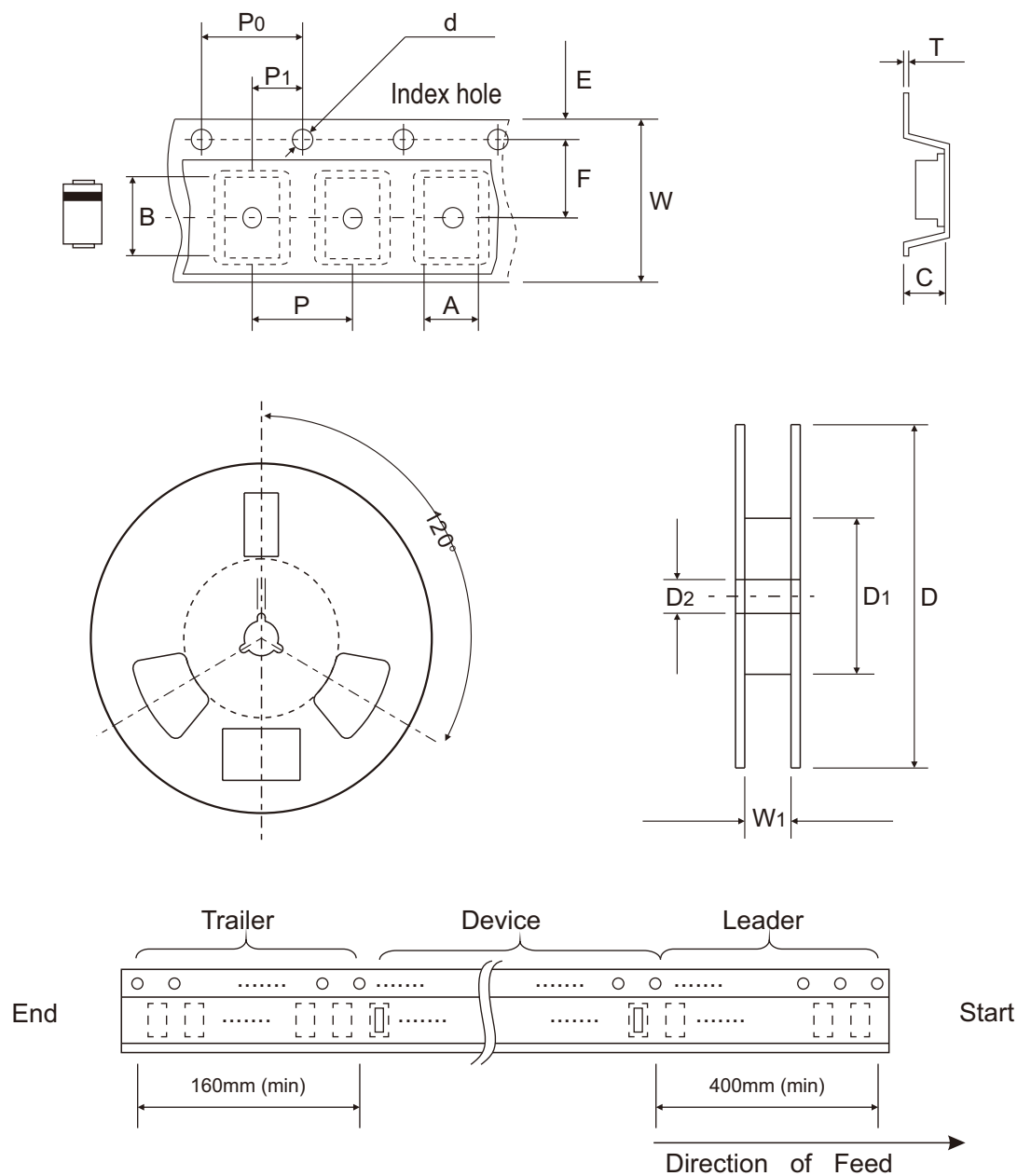


Fig.16 - Typical Reverse Characteristic



Reel Taping Specification

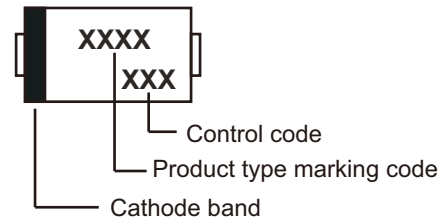


DO-214AC (SMA)	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.72 ± 0.10	5.27 ± 0.10	2.27 ± 0.10	1.55 ± 0.10	330 ± 1.00	75.00 ± 1.00	13.50 ± 0.50
	(inch)	0.107 ± 0.004	0.207 ± 0.004	0.089 ± 0.004	0.061 ± 0.004	12.992 ± 0.039	2.953 ± 0.039	0.531 ± 0.020

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

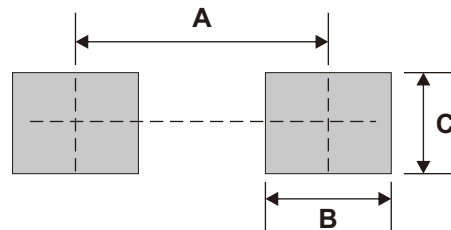
Marking Code

Part Number	Marking Code
AES1A-HF	ES1A
AES1B-HF	ES1B
AES1C-HF	ES1C
AES1D-HF	ES1D
AES1E-HF	ES1E
AES1G-HF	ES1G
AES1H-HF	ES1H
AES1J-HF	ES1J
AES1K-HF	ES1K



Suggested P.C.B. PAD Layout

SIZE	SMA	
	(mm)	(inch)
A	4.18	0.165
B	2.08	0.082
C	1.67	0.066



Note: 1. The pad layout is for reference purpose only.

Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DO-214AC (SMA)	5,000	13