



AK Series 15000A Transient Voltage Suppressor

Rev.2.1

DESCRIPTION:

The AK15 series of high current bi-directional transient suppressors are designed for A.C. line protection and high power DC bus clamping applications. These devices offer bi-directional port protection from 30 volts to 430 volts. They provide a clamping voltage lower than the avalanche voltage. Therefore, any voltage rise due to increased current conduction is contained to a minimum, providing the best possible protection level. They can also be connected in series and/or parallel to create very high capacity protection solutions.



Bi-directional

Symbol

FEATURES:

- ✧ Halogen-free.
- ✧ Bi-directional.
- ✧ RoHS compliant.
- ✧ Low slope resistance.
- ✧ Very low clamping voltage.
- ✧ Sharp breakdown voltage.
- ✧ Glass passivated junction .
- ✧ Foldback technology for superior clamping factor.
- ✧ High temperature soldering: 260°C/10s at terminals.

ABSOLUTE MAXIMUM RATINGS($T_A=25^{\circ}\text{C}$, RH=45%-75%, unless otherwise noted)

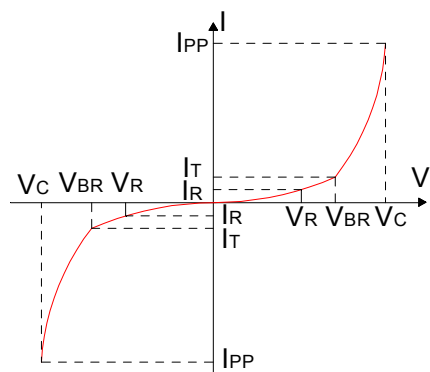
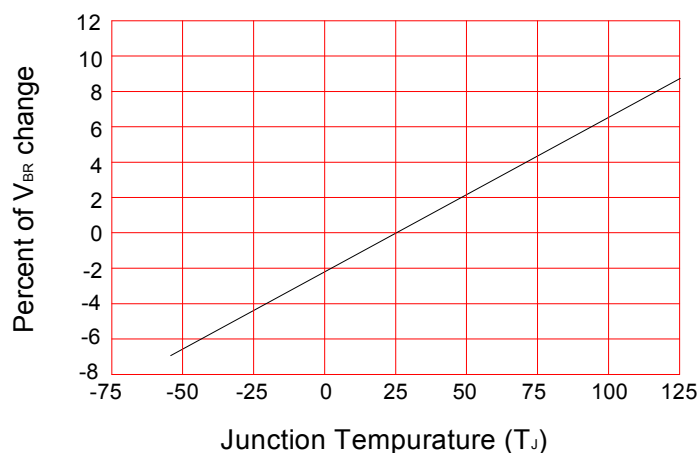
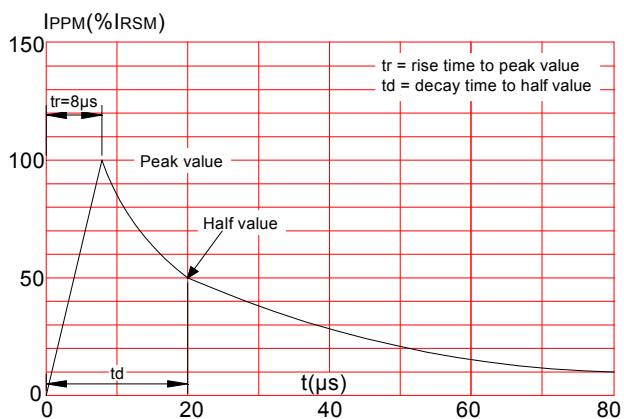
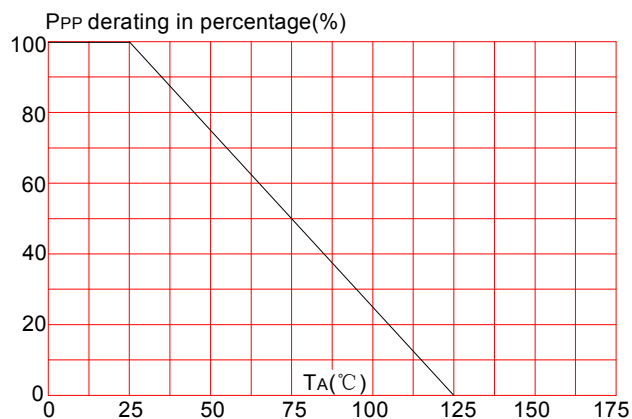
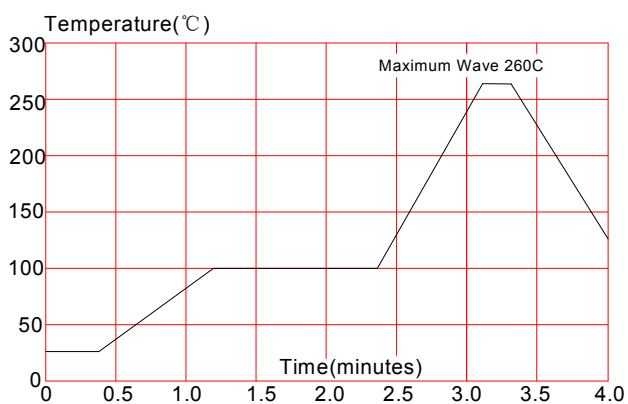
Parameter	Symbol	Value	Unit
Peak current rating per 8/20 μs IEC 61000-4-5	I_{PP}	15	KA
Operating junction temperature range	T_J	-55 to +125	$^{\circ}\text{C}$
Operating storage temperature range	T_{STG}	-55 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$)

Part Number	V_R	$V_{BR}@I_T$		I_T	$I_R@V_R$	$V_C@I_{PP}$	$I_{PP}^{①}$
Bi-Polar	V	Min(V)	Max(V)	mA	μA	V	A
AK15-030C	30	32	37	10	10	90	15000
AK15-042C	42	47	51	10	10	105	15000
AK15-058C	58	64	70	10	10	110	15000
AK15-066C	66	72	80	10	10	120	15000
AK15-076C	76	85	95	10	10	140	15000
AK15-100C	100	110	122	10	10	165	15000
AK15-133C	133	147	162	10	10	220	15000
AK15-170C	170	180	220	10	10	260	15000
AK15-190C	190	200	245	10	10	290	15000
AK15-240C	240	250	285	10	10	340	15000
AK15-275C	275	300	335	10	10	435	15000
AK15-300C	300	330	366	10	10	470	15000
AK15-380C	380	401	443	10	10	520	15000
AK15-430C	430	440	490	10	10	625	15000

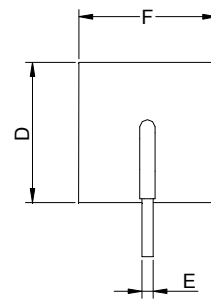
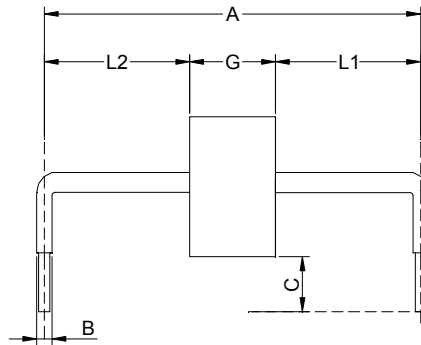
① Surge waveform:8/20 μs V_R : Stand-off voltage -- Maximum voltage that can be applied V_{BR} : Breakdown voltage V_C : Clamping voltage -- Peak voltage measured across the suppressor at a specified I_{PP} I_R : Reverse leakage current

RATINGS AND V-I CHARACTERISTICS CURVES ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

FIG.1: V- I curve characteristics (Bi-directional)

FIG.2: Typical V_{BR} Vs Junction Temperature

FIG.3: Pulse waveform

FIG.4: Pulse derating curve

SOLDERING PARAMETERS
FIG.5: Lead-free profile

Tab1: Flow/Wave soldering

Peak temperature	265°C
Dipping time	10 seconds
Soldering	1 times

PACKAGE MECHANICAL DATA

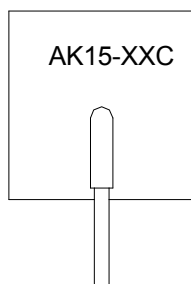


Size A			
Symbol		Inches	Millimeter
A		0.951±0.040	24.15±1.00
B		0.094±0.024	2.40±0.60
C		0.236±0.040	6.00±1.00
D		0.56max	14.0max
E		0.050±0.002	1.27±0.05
F		0.56max	14.0max
G	030C to 042C	0.20max	5.0max
	058C to 076C	0.24max	6.0max
	100C to 133C	0.32max	8.0max
	170C to 190C	0.39max	10.0max
	240C to 300C	0.55max	14.0max
	380C to 430C	0.70max	17.0max
L ₁ /L ₂	L ₁ =L ₂ tolerance±0.047inch(±1.20 mm)		

Size B			
Symbol		Inches	Millimeter
A		0.630±0.020	16.00±0.50
B		0.094±0.024	2.40±0.60
C		0.236±0.040	6.00±1.00
D		0.56max	14.0max
E		0.050±0.002	1.27±0.05
F		0.56max	14.0max
G	030C to 042C	0.20max	5.0max
	058C to 076C	0.24max	6.0max
	100C to 133C	0.32max	8.0max
	170C to 190C	None	None
	240C to 300C	None	None
	380C to 430C	None	None
L ₁ /L ₂	L ₁ =L ₂ tolerance±0.047inch(±1.20 mm)		

Part Number	Case Type	Quantity	Packing Option
AK15-XXC	AKS	84pcs	Box

MARKING & ORDERING INFORMATION



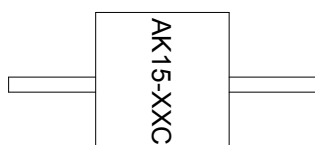
AK	15	-	XX	C
(1)	(2)		(3)	(4)

- (1) AK series
 (2) $I_{PP}=15KA$
 (3) Reverse stand-off voltage
 (4) Bi-directional

Apply to P/N listed below:

AK15-030C;AK15-042C;
 AK15-058C;AK15-066C;
 AK15-076C;AK15-100C;
 AK15-133C;AK15-170C;

Type 1 - Side View



AK	15	-	XX	C
(1)	(2)		(3)	(4)

- (1) AK series
 (2) $I_{PP}=15KA$
 (3) Reverse stand-off voltage
 (4) Bi-directional

Apply to P/N listed below:

AK15-190C
 AK15-240C
 AK15-275C
 AK15-300C
 AK15-380C
 AK15-430C

Type 2 - Top View

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