



AK Series 15000A Transient Voltage Suppressor

Rev.2.2

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 76 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: 265°C/10s at terminals.

ABSOLUTE MAXIMUM RATINGS_(T_A=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak current rating per 8/20μs IEC 61000-4-5	I _{PP}	15	kA
Operating junction temperature range	T _J	-55 to +125	°C
Storage temperature range	T _{STG}	-55 to +150	°C

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

Part Number	V_R	$V_{BR}@I_T$		I_T	$I_R@V_R$	$V_C@I_{PP}$	$I_{PP}^{①}$
		Min(V)	Max(V)				
Bi-Polar	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

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

☆: Products with negative resistance

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

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

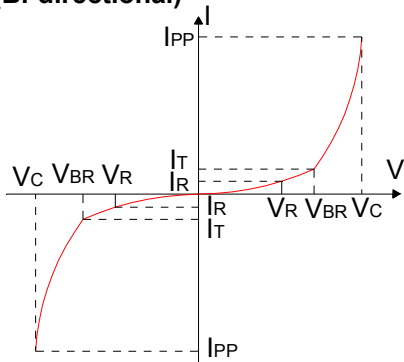


FIG.2:V- I curve characteristics (Bi-directional with negative resistance)

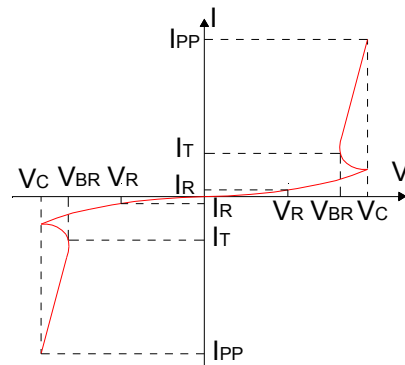


FIG.3: Typical V_{BR} vs Junction Temperature

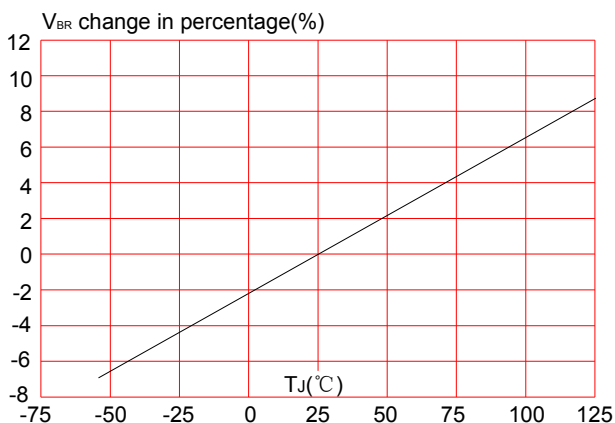


FIG.4: Pulse waveform

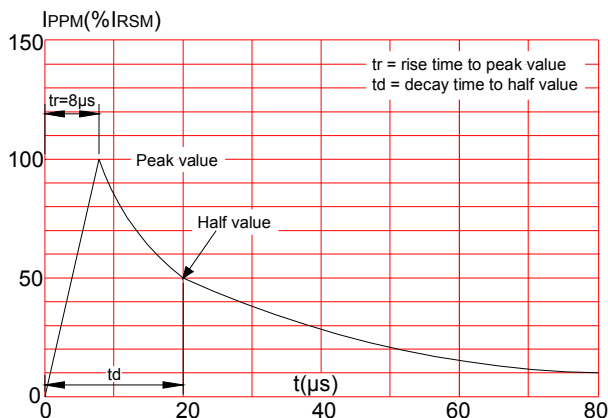
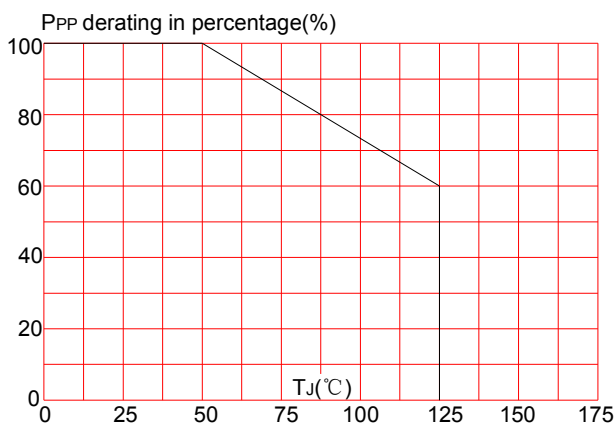
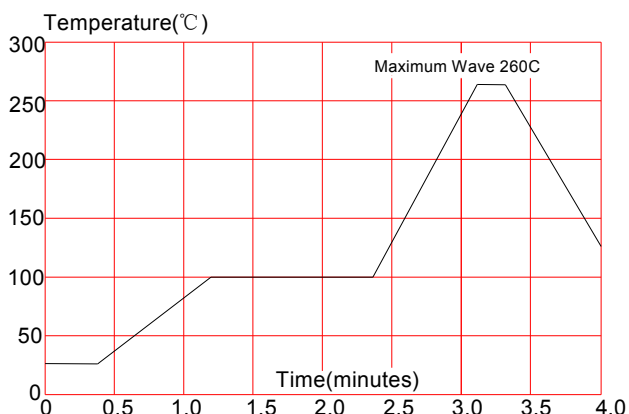


FIG.5: Pulse derating curve



SOLDERING PARAMETERS

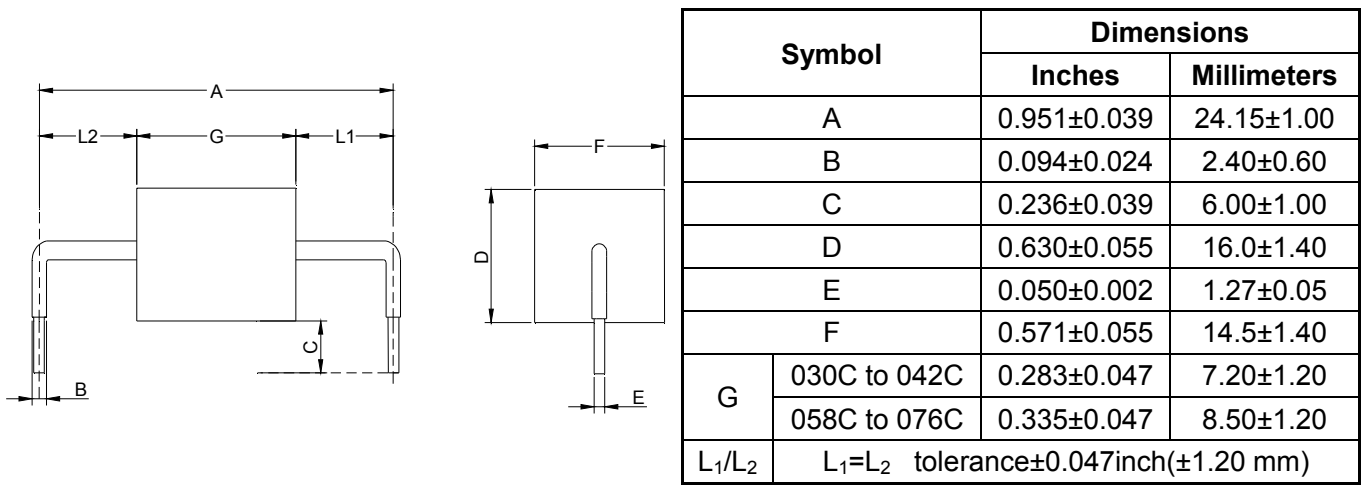
FIG.6: Lead-free profile



Tab1: Flow/Wave soldering

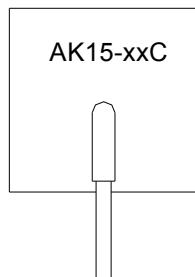
Peak temperature	265°C
Dipping time	10 seconds
Soldering	1 times

PACKAGE MECHANICAL DATA



PART No.	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;

Side View

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