

8x20uS 10KA Transient Voltage Suppressors

TVS Diodes - 10KA > AK10 Series



Mechanical Data

Terminal: Ag Plated leads, solderable per

MIL-STD-750,Method 2026

Mounting Position: any

Features

- Glass passivated junction
- Bi-directional
- RoHS compliant
- 10KA Surge capability at 8 x 20uS waveform(per IEC-61000-4-5)
- Excellent clamping capability
- Coating powder has underwriters Laboratory



Flammability Classification 94V-0

• Operation and storage Temperature:-40°C to +125°C

Electrical Characteristics

Part Number	Reverse Stand-Off Voltage		Breakdown Voltage $V_{BR@IT}$		Test Current	Maximum Clamping Voltage @IPP	Peak Pulse Current 8/20uS	Reverse Leakage @ $V_{RWM}$	Delivery Time
	$V_{AC}$	$V_{DC}$	Min(V)	Max(V)	$I_T(mA)$	$V_C(V)$	$I_{PP}$	$I_R(\mu A)$	Days
AK10-015C	11V	15V	16V	19V	10	28V	10KA	10	15days
AK10-020C	14V	20V	22V	24V	10	50V	10KA	10	15days
AK10-025C	17V	25V	28V	30V	10	60V	10KA	10	15days
AK10-030C	21V	30V	32V	37V	10	90V	10KA	10	15days
AK10-033C	22V	33V	36V	40V	10	95V	10KA	10	15days
AK10-042C	30V	42V	47V	51V	10	105V	10KA	10	15days
AK10-058C	40V	58V	64V	70V	10	110V	10KA	10	15days
AK10-066C	45V	66V	72V	80V	10	120V	10KA	10	15days
AK10-076C	54V	76V	85V	95V	10	140V	10KA	10	15days
AK10-100C	72V	100V	110V	120V	10	165V	10KA	10	15days
AK10-133C	100V	133V	147V	162V	10	220V	10KA	10	15days
AK10-170C	130V	170V	179V	220V	10	260V	10KA	10	15days
AK10-190C	145V	190V	200V	245V	10	290V	10KA	10	15days
AK10-200C	150V	200V	222V	262V	10	330V	10KA	10	15days

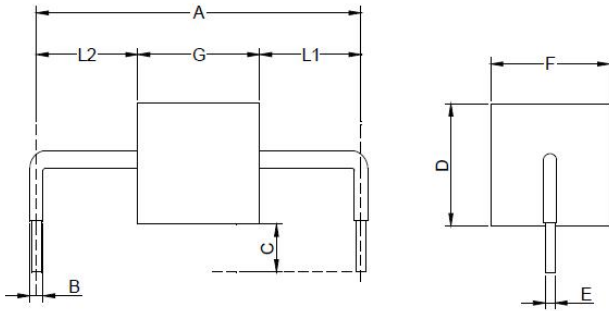
Electrical Characteristics



Part Number	Reverse Stand-Off Voltage		Breakdown Voltage $V_{BR@IT}$		Test Current $I_T(mA)$	Maximum Clamping Voltage @IPP $V_C(V)$	Peak Pulse Current 8/20uS $I_{PP}$	Reverse Leakage @ $V_{RWM}$ $I_R(\mu A)$	Delivery Time Days
	$V_{AC}$	$V_{DC}$	Min(V)	Max(V)					
AK10-220C	160V	220V	230V	270V	10	330V	10KA	10	15days
AK10-240C	169V	240V	250V	285V	10	340V	10KA	10	15days
AK10-270C	180V	270V	282V	315V	10	401V	10KA	10	15days
AK10-300C	215V	300V	330V	366V	10	470V	10KA	10	15days
AK10-380C	275V	380V	401V	443V	10	520V	10KA	10	15days
AK10-430C	310V	430V	440V	490V	10	625V	10KA	10	15days
AK10-530C	385V	530V	560V	619V	10	750V	10KA	10	15days

Dimensions

PACKAGE MECHANICAL DATA



Symbol	Dimensions		
	Inches	Millimeters	
A	0.951±0.039	24.15±1.00	
B	0.094±0.024	2.40±0.60	
C	0.236±0.039	6.00±1.00	
D	0.570max	14.48max	
E	0.050±0.002	1.27±0.05	
F	0.500max	12.70max	
G	015C to 025C	0.157±0.047	4.00±1.20
	030C to 042C	0.189±0.047	4.80±1.20
	058C to 076C	0.217±0.047	5.50±1.20
	100C	0.283±0.047	7.20±1.20
	133C	0.319±0.047	8.10±1.20
	170C to 190C	0.374±0.047	9.50±1.20
	200C	0.417±0.047	10.60±1.20
	240C	0.457±0.047	11.60±1.20
	275C to 300C	0.563±0.047	14.30±1.20
380C to 430C	0.610±0.047	15.50±1.20	
L1/L2	L1=L2 tolerance±0.047inch(±1.20 mm)		

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

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

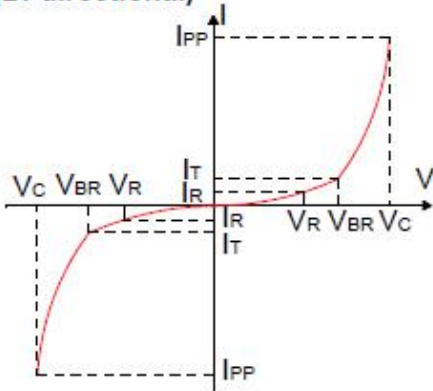


FIG.2: V- I curve characteristics (Bi-directional with negative resistance)

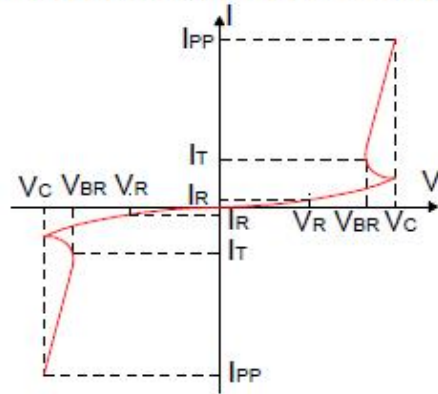


FIG.3: Typical  $V_{BR}$  vs junction temperature

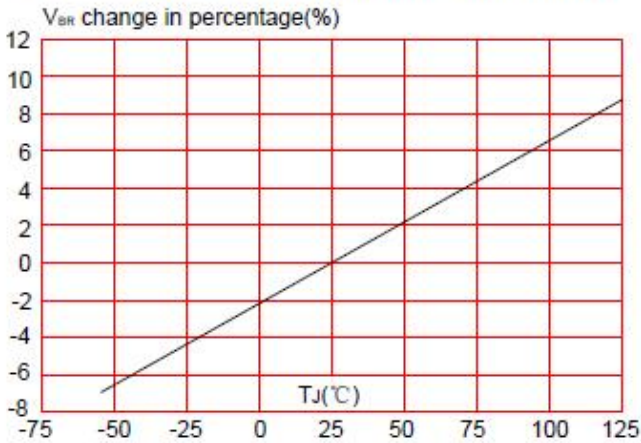


FIG.4: Pulse waveform

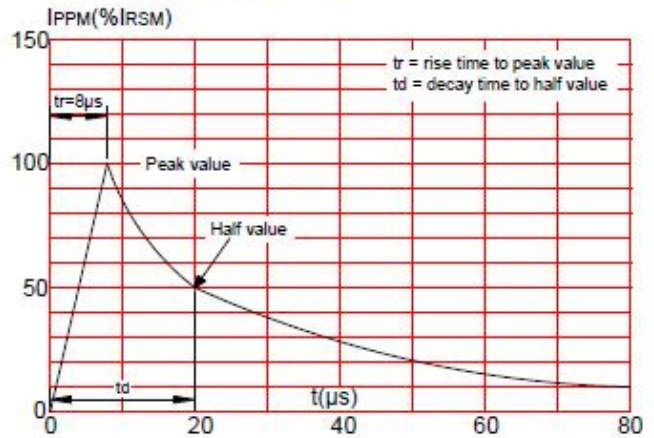
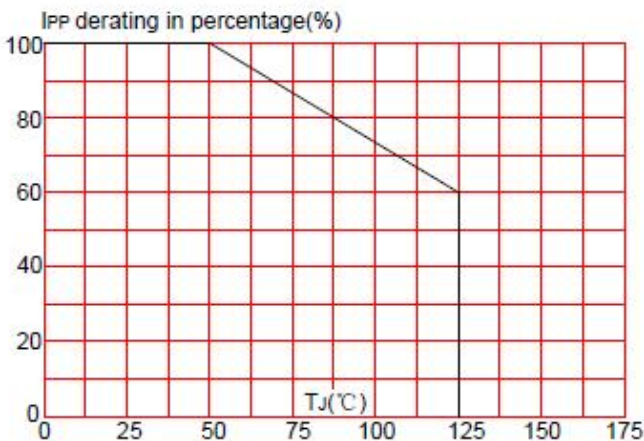
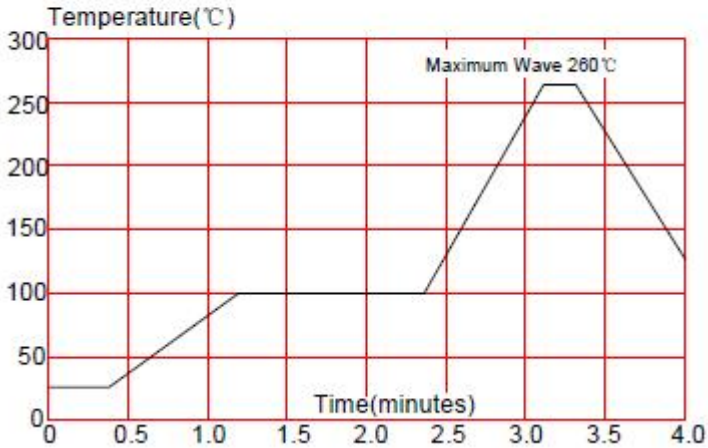


FIG.5: Pulse derating curve



**SOLDERING PARAMETERS**

**FIG.6: Lead-free profile**



**Tab1: Flow/Wave soldering**

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

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