

8x20uS 3KA Transient Voltage Suppressors

TVS Diodes - 3KA > AK3 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
- 3KA 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

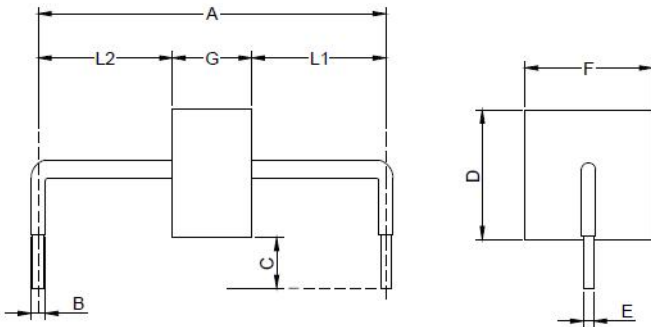
Part Number	Reverse Stand-Off Voltage		Breakdown Voltage $V_{BR@IT}$		Test Current	Maximum Clamping Voltage @IPP	Peak Pulse Current 8/20uS	Reverse Leakage @ V_{RWM}	Delivery Time
	V_{AC}	V_{DC}	Min(V)	Max(V)	$I_T(mA)$	$V_C(V)$	I_{PP}	$I_R(\mu A)$	Days
AK3-015C	11V	15V	16V	19V	10	28V	3KA	10	15days
AK3-020C	15V	20V	22V	24V	10	50V	3KA	10	15days
AK3-025C	17V	25V	28V	30V	10	60V	3KA	10	15days
AK3-030C	21V	30V	32V	37V	10	80V	3KA	10	15days
AK3-038C	28V	38V	40V	46V	10	95V	3KA	10	15days
AK3-042C	30V	42V	47V	51V	10	105V	3KA	10	15days
AK3-058C	40V	58V	64V	70V	10	110V	3KA	10	15days
AK3-066C	45V	66V	72V	80V	10	120V	3KA	10	15days
AK3-076C	54V	76V	85V	95V	10	140V	3KA	10	15days
AK3-100C	72V	100V	110V	120V	10	165V	3KA	10	15days
AK3-133C	100V	133V	147V	162V	10	220V	3KA	10	15days
AK3-150C	120V	150V	158V	194V	10	230V	3KA	10	15days
AK3-170C	130V	170V	179V	220V	10	260V	3KA	10	15days

Electrical Characteristics



Part Number	Reverse Stand-Off Voltage		Breakdown Voltage $V_{BR}@I_T$		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)					
AK3-190C	145V	190V	200V	245V	10	290V	3KA	10	15days
AK3-200C	150V	200V	223V	246V	10	310V	3KA	10	15days
AK3-208C	155V	208V	223V	246V	10	306V	3KA	10	15days
AK3-240C	180V	240V	250V	285V	10	340V	3KA	10	15days
AK3-275C	210V	275V	300V	335V	10	435V	3KA	10	15days
AK3-300C	230V	300V	330V	366V	10	470V	3KA	10	15days
AK3-380C	275V	380V	401V	443V	10	520V	3KA	10	15days
AK3-430C	310V	430V	440V	490V	10	625V	3KA	10	15days

Dimensions



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	
	208C 0.145±0.039	3.68±1.00	
D	0.433max	11.00max	
E	0.050±0.002	1.27±0.05	
F	0.374max	9.50max	
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	0.248±0.047	6.30±1.20
	133C	0.283±0.047	7.20±1.20
	150C	0.323±0.047	8.20±1.20
	170C to 190C	0.374±0.047	9.50±1.20
	208C	0.394±0.047	10.00±1.20
	240C	0.445±0.047	11.30±1.20
	275C to 300C	0.551±0.047	14.00±1.20
L1	380C to 430C	0.610±0.047	15.50±1.20
	208C	0.296±0.047	7.52±1.20
L2		$L_1=L_2$ tolerance±0.047inch(±1.20 mm)	
	208C	$=A-(G+L1)$ tolerance±0.047inch(±1.20 mm)	
		$L_1=L_2$ 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)

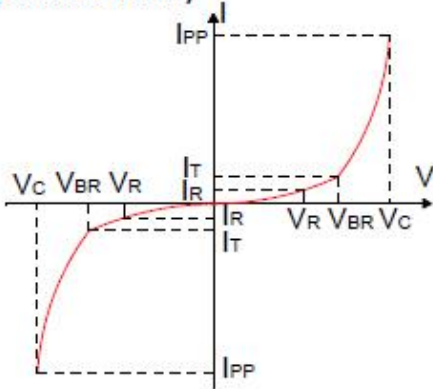


FIG.2: V- I curve characteristics (Bi-directional with negative resistance)

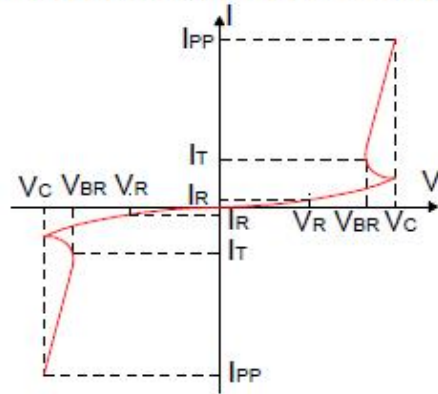


FIG.3: Typical V_{BR} vs junction temperature

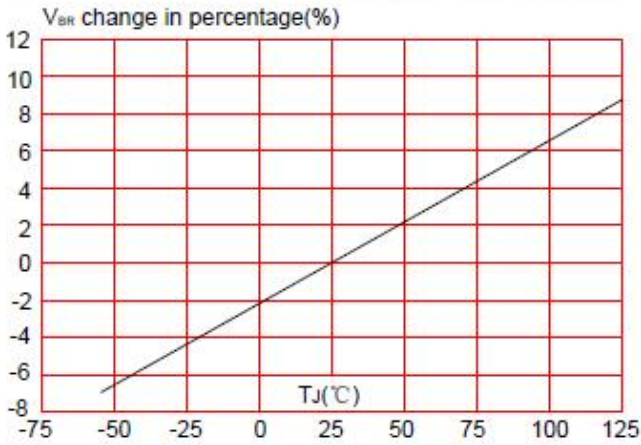


FIG.4: Pulse waveform

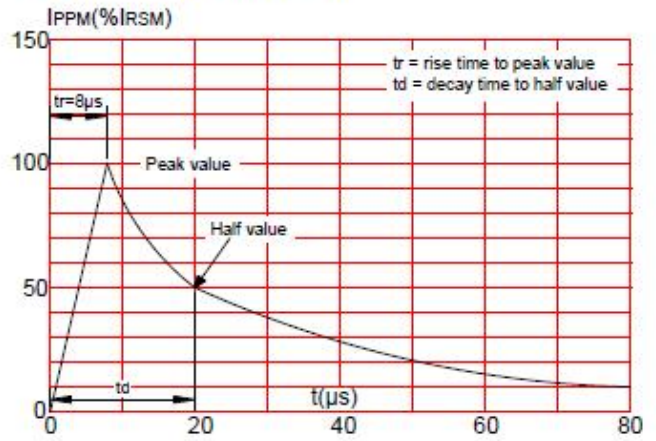
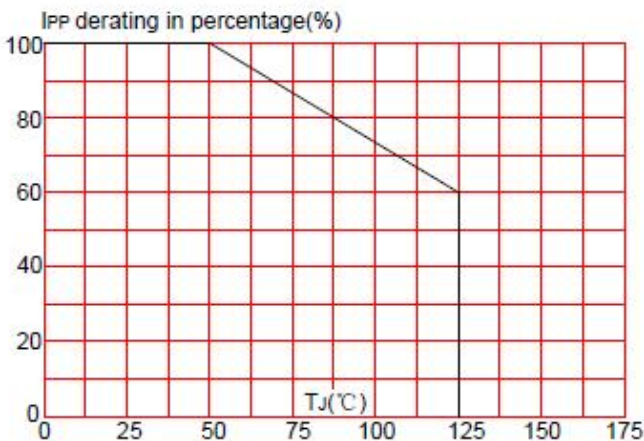
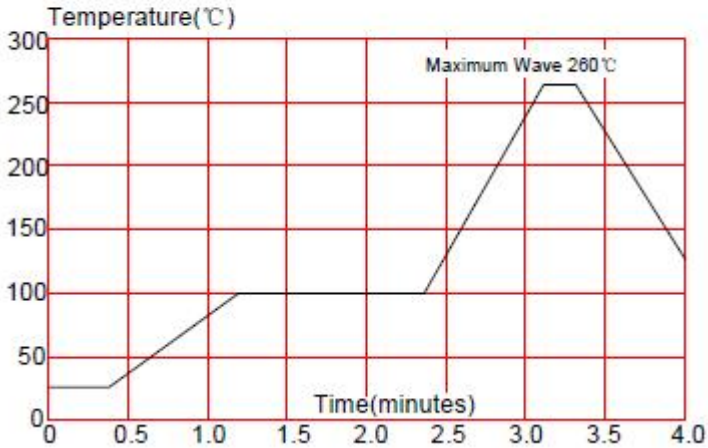


FIG.5: Pulse derating curve



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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