

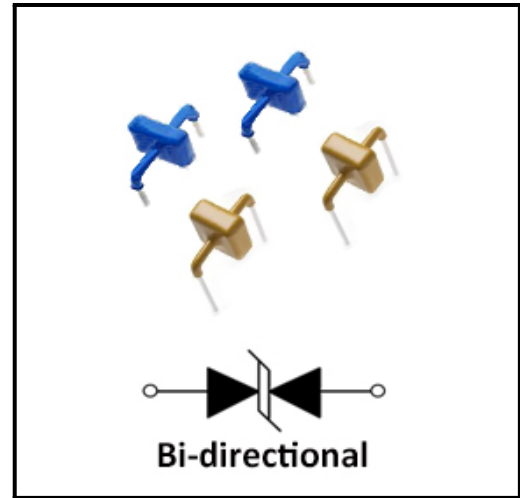
BNAK6 DATA SHEET

Transient Voltage Suppressors (TVS) Data Sheet

Features

- Symmetric in leads width for easier soldering during assembly.
- ESD protection of data lines in accordance with IEC 61000-4-2
- EFT protection of data lines in accordance with IEC 61000-4-4
- Ultra compact: less than one-tenth the size of traditional discrete Solutions
- Pb-free E4 means 2nd level interconnect is Pb-free and the terminal finish material is Silver
- Foldbak technology for superior clamping factor
- IEC-61000-4-2 ESD 15kV(Air), 8kV (Contact)
- Halogen-free
- RoHS compliant
- Low slope resistance
- Sharp breakdown voltage
- Very low clamping voltage
- Glass passivated junction
- Bi-directional

Package



Mechanical Data

- Weight: Contact manufacturer
- Terminal: Silver plated leads, solderable per MIL-STD-750 Method 2026
- Case: Epoxy encapsulated

Applications

- TVS devices are ideal for the protection of I/O Interfaces
- VCC bus and other vulnerable circuits used in Telecom
- Computer
- Industrial and Consumer electronic applications

Absolute Maximum Ratings (T_A=+25°C, unless otherwise noted)

Parameter	Symbol	Value	Units
Current Rating (Note1)	I _{PP}	6	KA
Operating Junction Temperature Range	T _J	-55 to 125	°C
Storage Temperature Range(Note1)	T _{STG}	-55 to 150	°C

Note: (1) Rated I_{PP} measured with 8/20 μS pulse.

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Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information. Revision: 2022-Jan-1-A



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Electrical Characteristics (T_A=+25°C, unless otherwise noted)

Part Number	Part Marking	Reverse Stand-Off Voltage V _{SO}	Reverse Breakdown Voltage V _{BR} @I _T		Test Current I _T	Maximum Clamping Voltage V _C @ I _{pp}	Maximum Peak Pulse Current I _{pp}	Maximum Temp Coefficient of V _{BR}	Maximum Capacity 0 Bias 10kHz	Maximum Reverse Leakage I _R @V _{SO}	Typical I _R @85°C
		(V)	Min.(V)	Max.(V)	(mA)	(V)	(A)	(%/°C)	(nF)	(uA)	(uA)
BNAK 6-015C	6-015C	15	16	19	10	28	6000	0.1	9.0	10	15
BNAK 6-020C	6-020C	20	22	24	10	36	6000	0.1	9.0	10	15
BNAK 6-025C	6-025C	25	27	30	10	45	6000	0.1	11.0	10	15
BNAK 6-030C	6-030C	30	32	37	10	57	6000	0.1	11.0	10	15
BNAK 6-042C	6-042C	42	47	51	10	80	6000	0.1	10.0	10	15
BNAK 6-058C	6-058C	58	64	70	10	110	6000	0.1	8.0	10	15
BNAK 6-066C	6-066C	66	72	80	10	120	6000	0.1	6.0	10	15
BNAK 6-076C	6-076C	76	85	95	10	140	6000	0.1	6.5	10	15
BNAK 6-100C	6-100C	100	110	122	10	165	6000	0.1	6.0	10	15
BNAK 6-133C	6-133C	133	147	162	10	220	6000	0.1	6.0	10	15
BNAK 6-170C	6-170C	170	179	220	10	260	6000	0.1	2.8	10	15
BNAK 6-190C	6-190C	190	200	245	10	290	6000	0.1	2.5	10	15
BNAK 6-240C	6-240C	240	250	285	10	340	6000	0.1	2.2	10	15
BNAK 6-275C	6-275C	275	300	335	10	435	6000	0.1	2.2	10	15
BNAK 6-300C	6-300C	300	330	366	10	470	6000	0.1	2.0	10	15
BNAK 6-380C	6-380C	380	401	443	10	520	6000	0.1	1.4	10	15
BNAK 6-430C	6-430C	430	440	490	10	625	6000	0.1	1.0	10	15

Note: Using 8/20 μs wave shape pulses as defined in IEC61000-4-5.



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Figure 1: Non Lead-free Profile

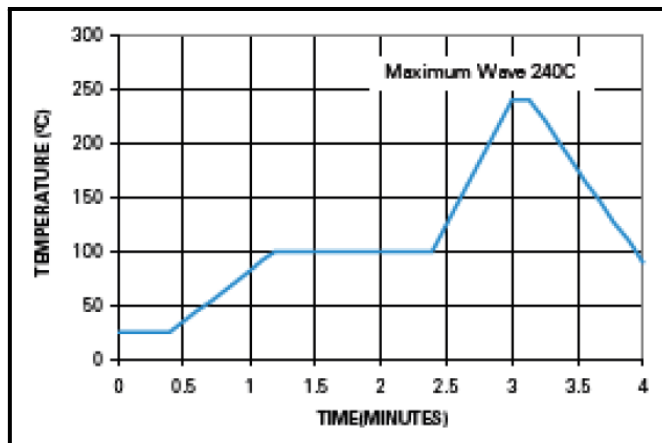
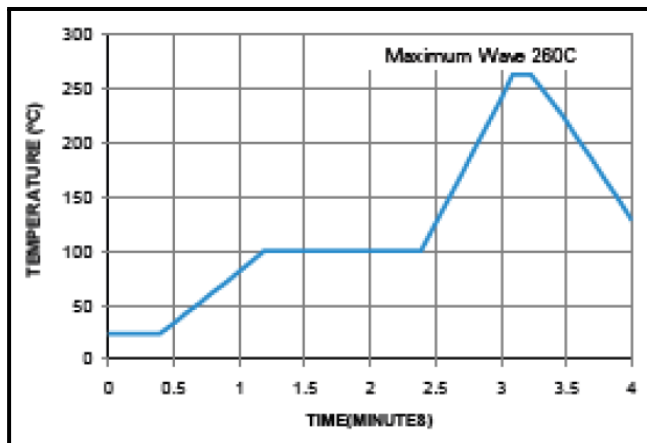


Figure 2 : Lead-free Profile



Peak Temperature	Dipping Time	Soldering
265°C	10 seconds	1 time



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Ratings and Characteristic Curves ($T_A = +25^\circ\text{C}$, unless otherwise noted)

Figure 3: Peak Pulse Power Rating

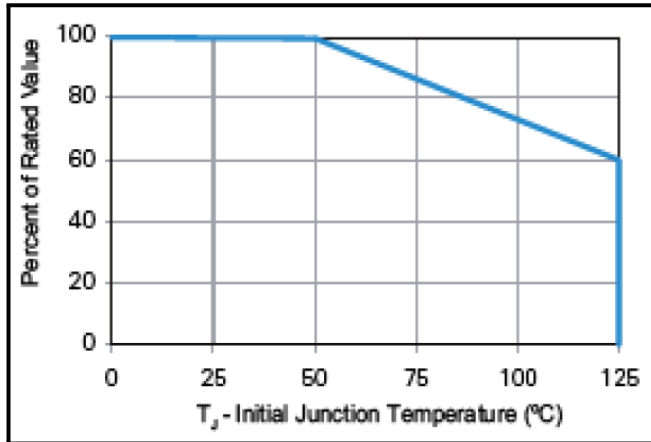


Figure 4: Surge Response

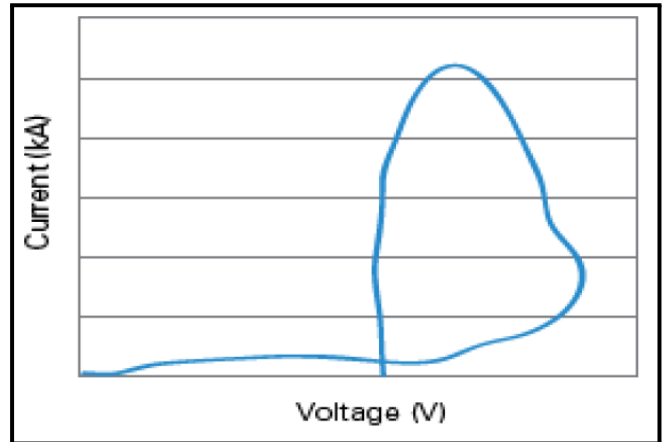


Figure 5: Typical Peak Pulse Power Rating Curve

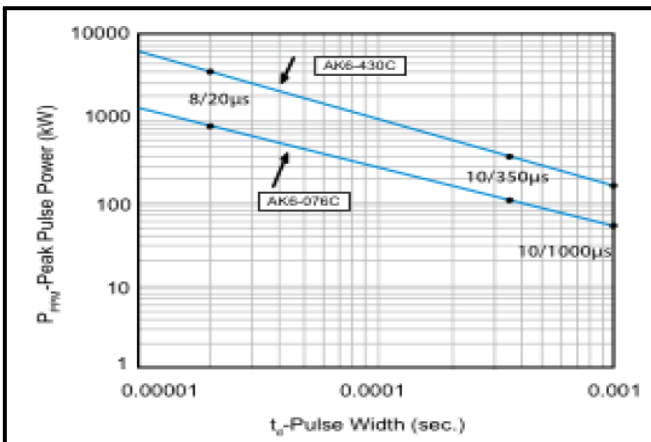


Figure 6 : Typical V_{BR} Junction Temperature

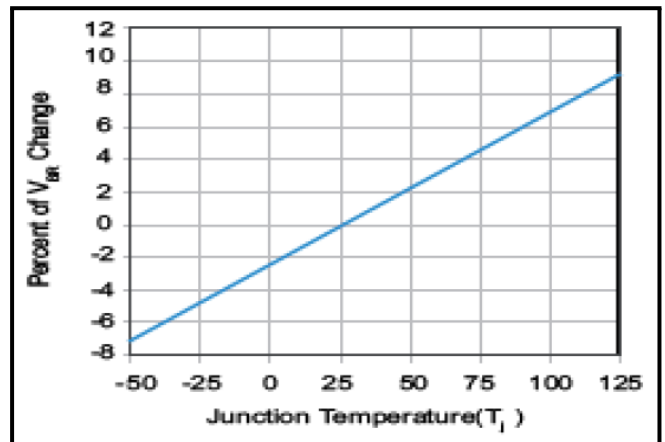


Figure 7: Surge Response (8/20 Surge Current Wave-
form)

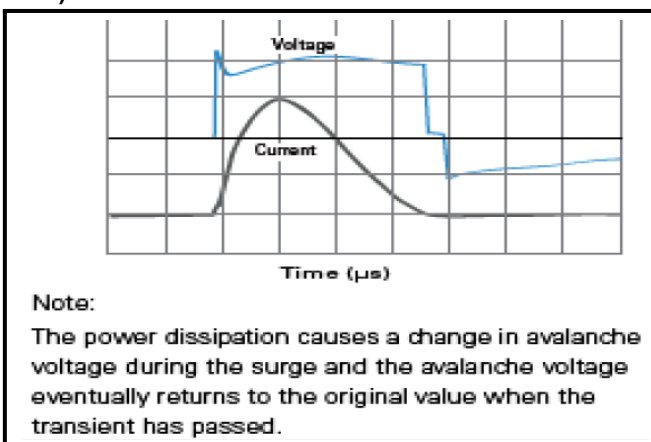
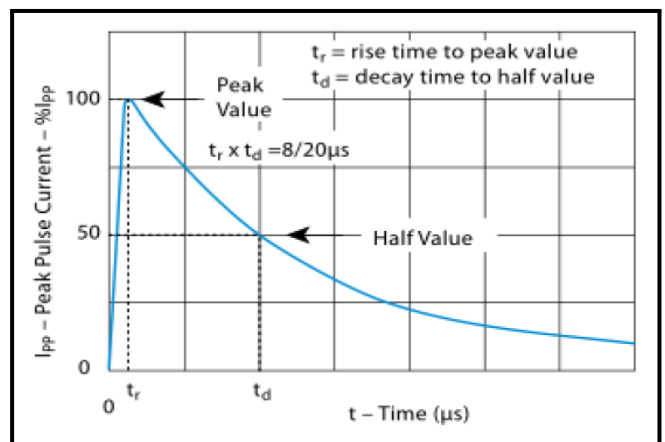


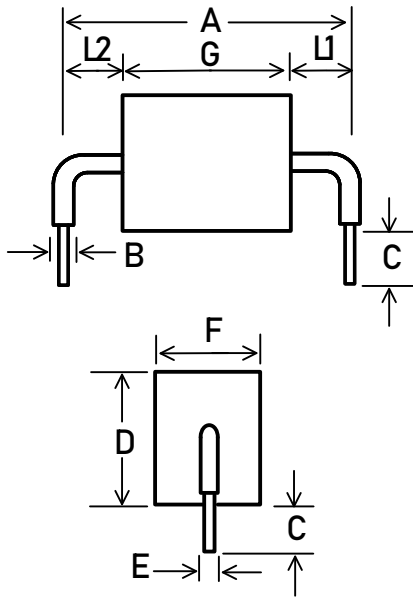
Figure 8 : Pulse Waveform



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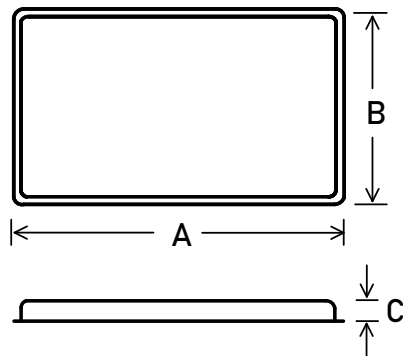
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Outline Drawing – AK6



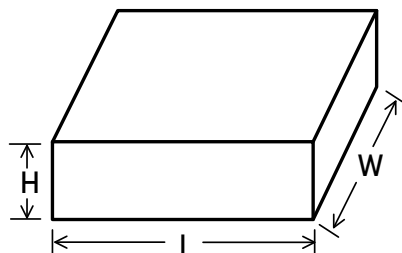
SYMBOL	Dim.	
	Inches	MILLIMETER
A	0.951 ±0.039	24.15 ± 1.00
B	0.094 ± 0.024	2.4 ± 0.60
C	0.236 ± 0.039	6.00 ± 1.00
D	0.570 Max	14.48 Max
E	0.050 ± 0.002	1.27 ± 0.050
F	0.500 Max	12.70 Max
G	0.787 Max	20.0 Max
L1/L2	L1=L2 tolerance ± 0.047 inch (± 1.2 mm)	

Packaging Tape - Skin packing



SYMBOL	MILLIMETER
A	180
B	180
C	20
Quantity: 28 PCS	

Packaging Reel - Inner Box



SYMBOL	MILLIMETER
L	187
W	187
H	70
Quantity: 56 PCS	

