

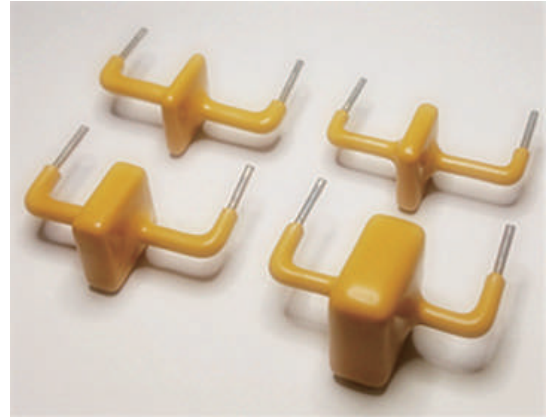
Transient Voltage Suppression Diodes

FEATURES

- Very low clamping voltage
- Sharp breakdown voltage
- Low slope resistance
- Glass passivated junction
- Bi-directional
- RoHS compliant
- Halogen-free
- IEC-61000-4-2 ESD
15kV(Air), 8kV (Contact)
- ESD protection of data lines in accordance with IEC 61000-4-2
- EFT protection of data lines in accordance with IEC 61000-4-4



AK



MECHANICAL DATA

- Case: Epoxy encapsulated, AK
- Terminals: Silver plated leads, solderable per MIL-STD-750 Method 2026



MAXIMUM RATINGS AND THERMAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	VALUE		UNIT
Current Rating ⁽¹⁾	I _{PP}	YAK1	1	kA
		YAK3	3	
		YAK6	6	
		YAK10	10	
		YAK15	15	
		YAK20	20	
Operating junction temperature range	T _J	-55 to +125		°C
Storage temperature range	T _{STG}	-55 to +150		°C

Note:

(1) Rated I_{PP} measured with 8/20μs pulse.

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)								
Part Number	Marking Code	Reverse Stand-Off Voltage V_{RWM} (V)	Maximum Reverse Leakage $I_R@V_{RWM}$ (μA)	Breakdown Voltage $V_{BR}@I_T$			Maximum Clamping Voltage $V_C@I_{PP}$ (V)	Current Rating ⁽¹⁾ I_{PP} (A)
				Min (V)	Max (V)	I_T (mA)		
YAK1-076C-Y	1-076C	76	10	85	95	10	140	1,000
YAK1-380C-Y	1-380C	380	10	401	443	10	570	1,000
YAK1-430C-Y	1-430C	430	10	440	490	10	625	1,000
YAK3-015C-Y	3-015C	15	10	16	19	10	28	3,000
YAK3-030C-Y	3-030C	30	10	32	37	10	90	3,000
YAK3-038C-Y	3-038C	38	10	40	46	10	95	3,000
YAK3-058C-Y	3-058C	58	10	64	70	10	110	3,000
YAK3-066C-Y	3-066C	66	10	72	80	10	120	3,000
YAK3-076C-Y	3-076C	76	10	85	95	10	140	3,000
YAK3-150C-Y	3-150C	150	10	158	194	10	230	3,000
YAK3-170C-Y	3-170C	170	10	179	220	10	260	3,000
YAK3-190C-Y	3-190C	190	10	200	245	10	290	3,000
YAK3-208C-Y	3-208C	208	10	223	246	10	306	3,000
YAK3-380C-Y	3-380C	380	10	401	443	10	520	3,000
YAK3-430C-Y	3-430C	430	10	440	490	10	625	3,000
YAK6-030C-Y	6-030C	30	10	32	37	10	90	6,000
YAK6-058C-Y	6-058C	58	10	64	70	10	110	6,000
YAK6-066C-Y	6-066C	66	10	72	80	10	120	6,000
YAK6-076C-Y	6-076C	76	10	85	95	10	140	6,000
YAK6-170C-Y	6-170C	170	10	180	220	10	260	6,000
YAK6-190C-Y	6-190C	190	10	200	245	10	290	6,000
YAK6-240C-Y	6-240C	240	10	250	285	10	340	6,000
YAK6-380C-Y	6-380C	380	10	401	443	10	520	6,000
YAK6-430C-Y	6-430C	430	10	440	490	10	625	6,000

Note:

(1) Using 8/20 μs wave shape as defined in IEC 61000-4-5.

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)								
Part Number	Marking Code	Reverse Stand-Off Voltage V_{RWM} (V)	Maximum Reverse Leakage $I_R@V_{RWM}$ (μA)	Breakdown Voltage $V_{BR}@I_T$			Maximum Clamping Voltage $V_C@I_{PP}$ (V)	Current Rating ⁽¹⁾ I_{PP} (A)
				Min (V)	Max (V)	I_T (mA)		
YAK10-015C-Y	10-015C	15	10	16	19	10	28	10,000
YAK10-030C-Y	10-030C	30	10	32	37	10	48	10,000
YAK10-033C-Y	10-033C	33	10	36	40	10	53	10,000
YAK10-058C-Y	10-058C	58	10	64	70	10	110	10,000
YAK10-066C-Y	10-066C	66	10	72	80	10	120	10,000
YAK10-076C-Y	10-076C	76	10	85	95	10	140	10,000
YAK10-170C-Y	10-170C	170	10	180	220	10	260	10,000
YAK10-190C-Y	10-190C	190	10	200	245	10	290	10,000
YAK10-220C-Y	10-220C	220	10	230	270	10	330	10,000
YAK10-240C-Y	10-240C	240	10	250	285	10	340	10,000
YAK10-270C-Y	10-270C	270	10	282	315	10	401	10,000
YAK10-380C-Y	10-380C	380	10	401	443	10	520	10,000
YAK10-430C-Y	10-430C	430	10	440	490	10	625	10,000
YAK10-530C-Y	10-530C	530	10	560	619	10	750	10,000
YAK15-058C-Y	15-058C	58	10	64	70	10	110	15,000
YAK15-066C-Y	15-066C	66	10	72	80	10	120	15,000
YAK15-076C-Y	15-076C	76	10	85	95	10	140	15,000
YAK15-170C-Y	15-170C	170	10	180	220	10	260	15,000
YAK15-190C-Y	15-190C	190	10	200	245	10	290	15,000
YAK15-240C-Y	15-240C	240	10	250	285	10	340	15,000
YAK15-380C-Y	15-380C	380	10	401	443	10	520	15,000
YAK15-430C-Y	15-430C	430	10	440	490	10	625	15,000
YAK20-016C-Y	20-016C	16	5	17.5	19.3	10	30	20,000
YAK20-058C-Y	20-058C	58	5	64	70	10	120	20,000
YAK20-063C-Y	20-063C	63	5	68	75	10	125	20,000
YAK20-066C-Y	20-066C	66	5	72	80	10	130	20,000
YAK20-076C-Y	20-076C	76	5	85	95	10	160	20,000

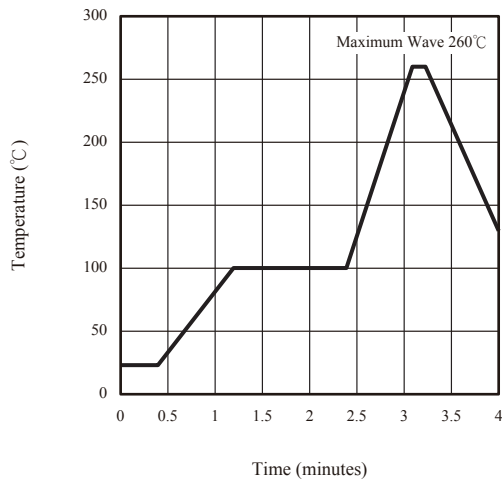
Note:

(1) Using 8/20 μs wave shape as defined in IEC 61000-4-5.

FLOW/WAVE SOLDERING (Solder Dipping)	
Peak Temperature	265°C
Dipping Time	10 seconds
Soldering	1 time

WAVE SOLDER PROFILE

Fig.1 - Lead-free Profile



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

Fig.2 - Peak Power Derating

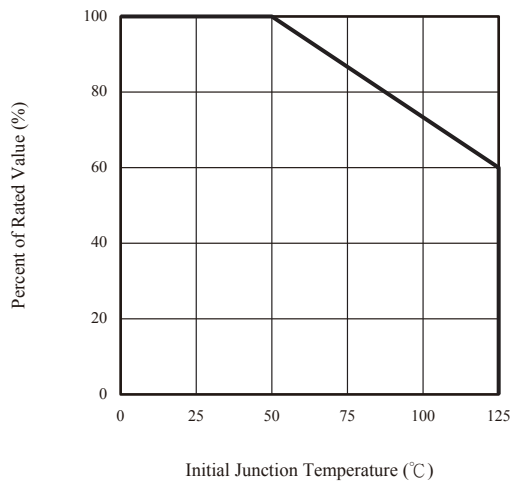
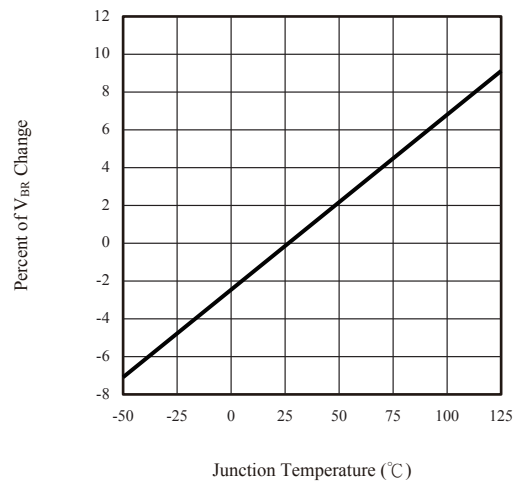


Fig.3 - Typical V_{BR} vs. Junction Temperature



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

Fig.4 - Pulse Waveform

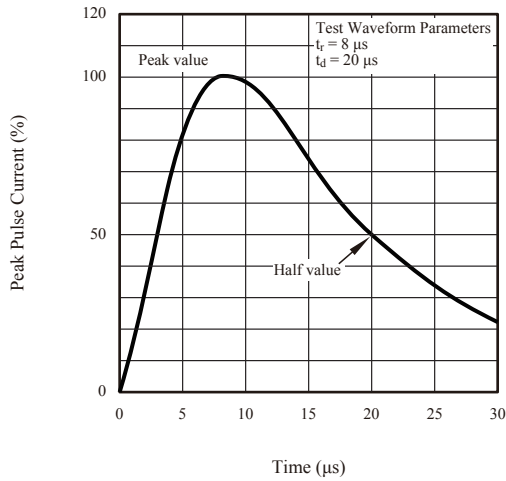


Fig.5 - Typical Peak Pulse Power Rating Curve (YAK1)

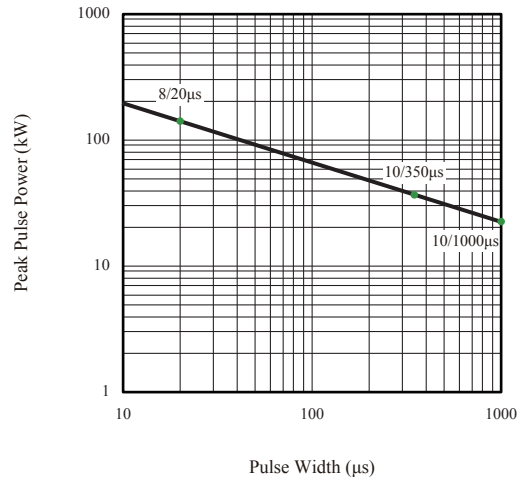


Fig.6 - Typical Peak Pulse Power Rating Curve (YAK3)

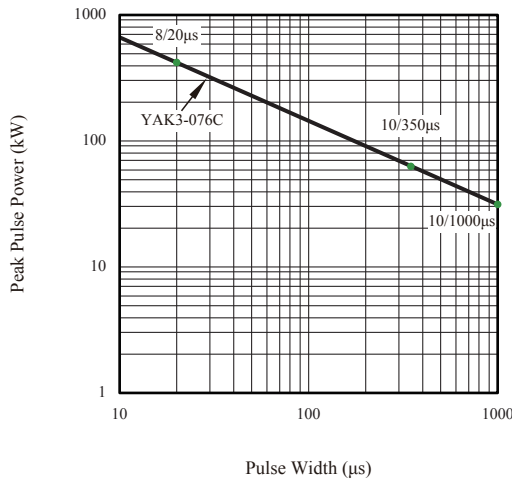


Fig.7 - Typical Peak Pulse Power Rating Curve (YAK6)

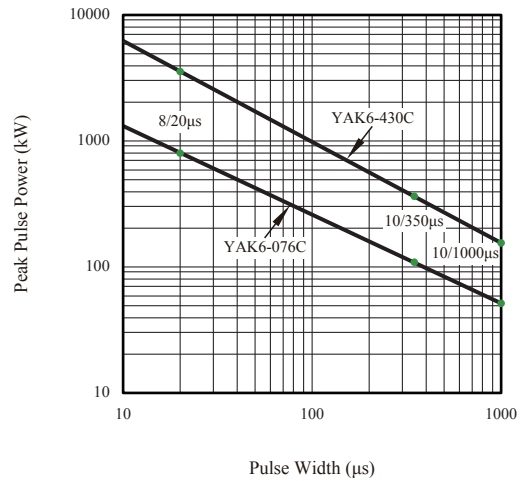


Fig.8 - Typical Peak Pulse Power Rating Curve (YAK10)

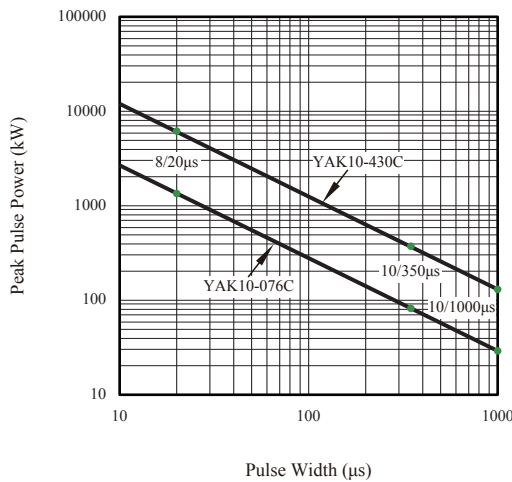
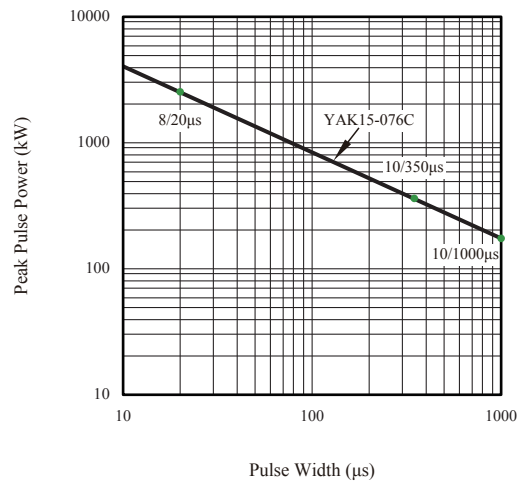
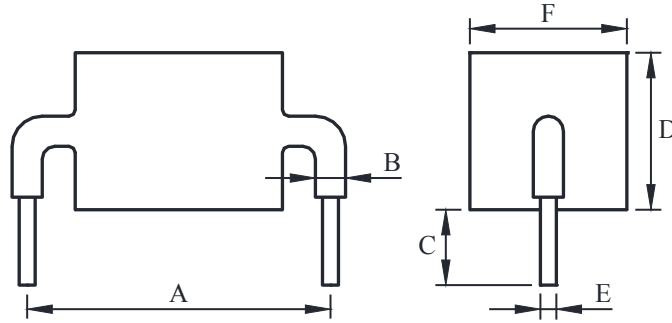


Fig.9 - Typical Peak Pulse Power Rating Curve (YAK15)



PACKAGE OUTLINE DIMENSIONS



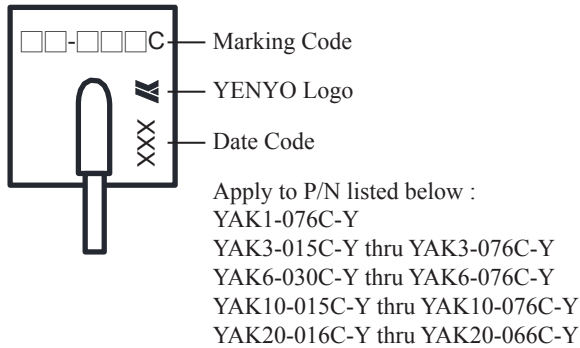
YAK1 / 6 / 10 Series		
Dimensions	Inches	Millimeters
A	0.951 ± 0.040	24.15 ± 1.00
B	0.095 ± 0.024	2.40 ± 0.60
C	0.236 ± 0.040	6.00 ± 1.00
D	0.570 max.	14.48 max.
E	0.050 ± 0.002	1.27 ± 0.05
F	0.500 max.	12.70 max.

YAK3 Series		
Dimensions	Inches	Millimeters
A	0.951 ± 0.040	24.15 ± 1.00
B	0.095 ± 0.024	2.40 ± 0.60
C	0.236 ± 0.040	6.00 ± 1.00
D	0.433 max.	11.00 max.
E	0.050 ± 0.002	1.27 ± 0.05
F	0.374 max.	9.50 max.

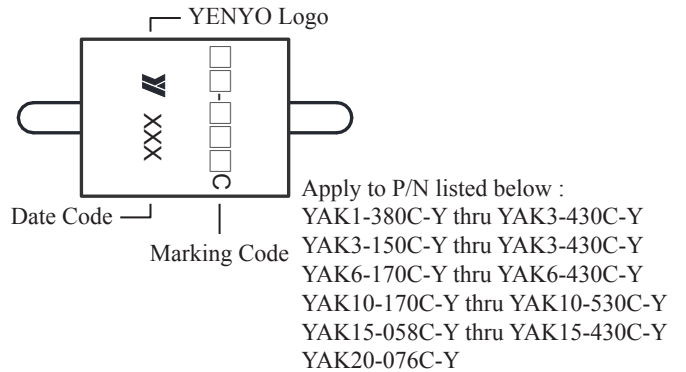
YAK15 Series		
Dimensions	Inches	Millimeters
A	0.951 ± 0.040	24.15 ± 1.00
B	0.095 ± 0.024	2.40 ± 0.60
C	0.236 ± 0.040	6.00 ± 1.00
D	0.630 ± 0.055	16.00 ± 1.40
E	0.050 ± 0.002	1.27 ± 0.05
F	0.571 ± 0.055	14.50 ± 1.40

YAK20 Series		
Dimensions	Inches	Millimeters
A	0.951 ± 0.040	24.15 ± 1.00
B	0.095 ± 0.024	2.40 ± 0.60
C	0.236 ± 0.040	6.00 ± 1.00
D	0.630 ± 0.055	16.00 ± 1.40
E	0.050 ± 0.002	1.27 ± 0.05
F	0.587 ± 0.055	14.90 ± 1.40

MARKING CODE SYSTEM

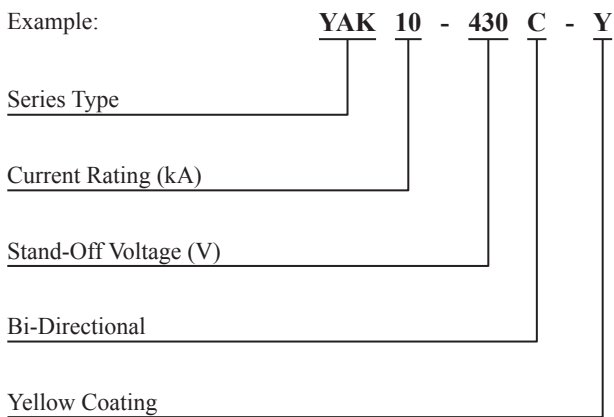


Type 1 - Side View



Type 2 - Top View

PART NUMBERING SYSTEM



PACKING OPTIONS

Component Package	Quantity	Packaging Option
AK Package	56pcs/Box	Bulk
AK Package	12pcs/Box	Bulk