TYPICAL DEVICE CHARACTERISTICS

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER (Note 1)	REVERSE STAND-OFF VOLTAGE		MINIMUM BREAKDOWN VOLTAGE	TEST CURRENT	CURRENT RATING	MAXIMUM CLAMPING VOLTAGE	REVERSE LEAKAGE CURRENT
	V_{AC} VOLTS	V_{DC} VOLTS	$V_{(BR)}$ @ I_T VOLTS	@ I_T mA	8/20µs kA	@ I_{PP} V_C VOLTS	@V_{DC} I_R µA
K1-076	54.0	76.0	83.0	10	1	135.0	20
KA-058*	40.0	58.0	64.0	10	3	110.0	20
KA-076*	54.0	76.0	85.0	10	3	140.0	20
KA-150	106.0	150.0	158.0	10	3	230.0	10
KA-380*	275.0	380.0	401.0	10	3	520.0	20
KA-430*	310.0	430.0	440.0	10	3	652.0	20
KB-058*	40.0	58.0	64.0	10	6	110.0	20
KB-076*	54.0	76.0	83.0	10	6	135.0	20
KB-170*	130.0	170.0	180.0	10	6	260.0	20
KB-190*	145.0	190.0	200.0	10	6	290.0	20
KB-240*	180.0	240.0	250.0	10	6	340.0	20
KB-380*	275.0	380.0	401.0	10	6	520.0	20
KB-430*	310.0	430.0	440.0	10	6	625.0	20
KC-058	40.0	58.0	64.0	10	10	110.0	20
KC-076*	54.0	76.0	83.0	10	10	135.0	20
KC-170	130.0	170.0	180.0	10	10	260.0	20
KC-190*	145.0	190.0	200.0	10	10	290.0	20
KC-200*	150.0	200.0	222.0	10	10	330.0	20
KC-240	180.0	240.0	250.0	10	10	340.0	20
KC-250	188.0	250.0	261.0	10	10	370.0	20
KC-380*	275.0	380.0	401.0	10	10	520.0	20
KC-430*	310.0	430.0	440.0	10	10	625.0	20
KD-058	40.0	58.0	64.0	10	15	110.0	20
KD-076	54.0	76.0	85.0	10	15	145.0	20

NOTE
1. *Contact factory for minimum order quantities.

TYPICAL DEVICE CHARACTERISTICS

TABLE 1 - STANDARD PACKAGE , LEADED PROCESS, PACKAGE PEAK REFLOW TEMPERATURE		
Package Thickness	**Volume mm³ < 350**	**Volume mm³ >= 350**
< 2.5mm	240 +0/-5°C	225 +0/-5°C
>= 2.5mm	225 +0/-5°C	225 +0/-5°C

NOTES:
1. The package thickness and volume dictates the maximum component temperature. The thermal gradients between packages can be reduced by using convection reflow processes.
2. Volume of the package does not account for the external terminals.
3. Package volume is the equivalent of package size multipled by the height.

TABLE 2 - LEAD-FREE PROCESS, PACKAGE PEAK REFLOW TEMPERATURE			
Package Thickness	**Volume mm³ < 350**	**Volume mm³ 250 - 2000**	**Volume mm³ > 2000**
< 1.6mm	260 +0°C	260 +0°C	260 +0°C
1.6mm - 2.5mm	260 +0°C	250 +0°C	245 +0°C
>= 2.5mm	250 +0°C	245 +0°C	245 +0°C

NOTES:
1. The profiling tolerance is +0, -X °C but at no time will it exceed -5°C.
2. Volume of the package does not account for the external terminals.
3. The package thickness and volume dictates the maximum component temperature. The thermal gradients between packages can be reduced by using convection reflow processes.
4. Components used in lead-free assembly shall be evaluated using the lead-free classification temperature and profiles as defined in the above table.
5. Table 3 will help determine if the components are lead-free or not.
6. The device manufacturer/supplier shall ensure process compatibility up to and including the stated classification temperature at the rated MSL level.

TABLE 3 - CLASSIFICATION REFLOW PROFILES		
Profile Feature	**Sn - Pb Eutetectic Assembly**	**Pb-Free Assembly**
Average Ramp Up Rate (T_{SMAX} to T_P)	3°C/seconds Max.	3°C/seconds Max.
Preheat Temperature Min T_{SMIN} Temperature MAX T_{SMAX} Time (T_{SMIN} to T_{SMAX}) (ts)	 100°C 150°C 60-120 seonds	 150°C 200°C 60-180 seconds
Time Maintained Above Temperature (T_L) Time(t_L)	 183°C 60-150 seconds	 217°C 60-150 seconds
Peak/Classification Temperature (T_P)	See Table 1	See Table 2
Time Within 5°C of Actual Temperature (t_P)	10-30 seconds	20-40 seconds
Ramp-Down Rate	6°C/seconds Max.	6°C/seconds Max.
Time 25°C to Peak Temperature	6 Minutes Max.	8 Minutes Max.

NOTES:
1. All temperatures refer to topside of the package, measured on the package body surface.
2. Time within 5°C of the actual peak temperature (T_P) specified for the reflow profiles is "supplier" minimum and "user" maximum.

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
SOLDER WAVEFORM

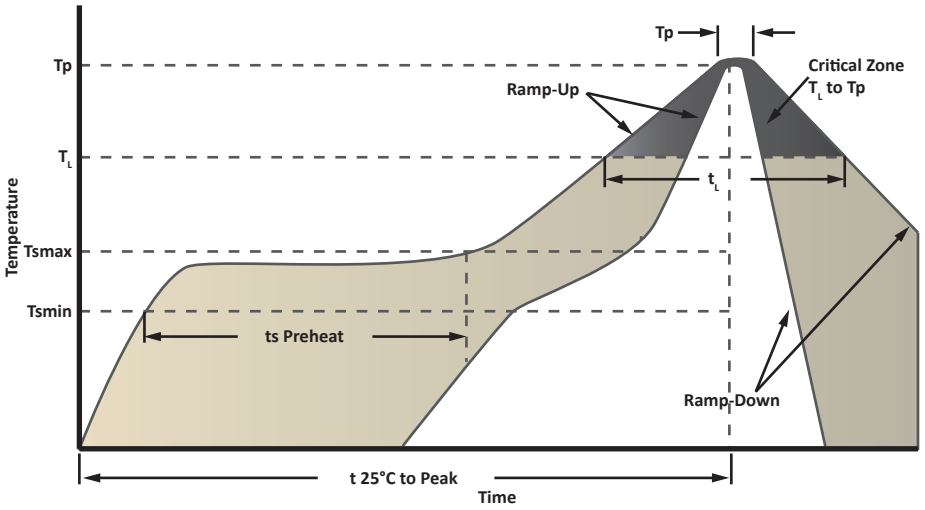
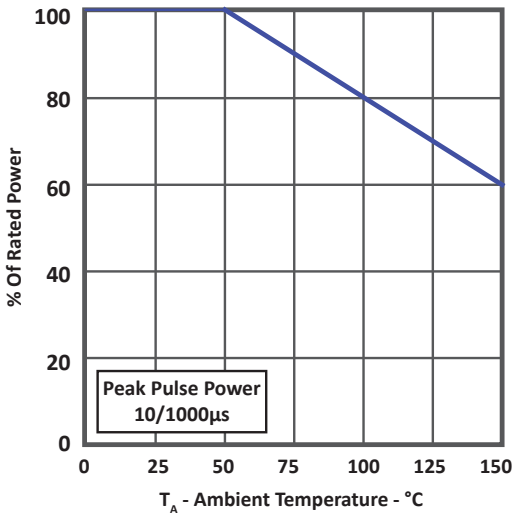
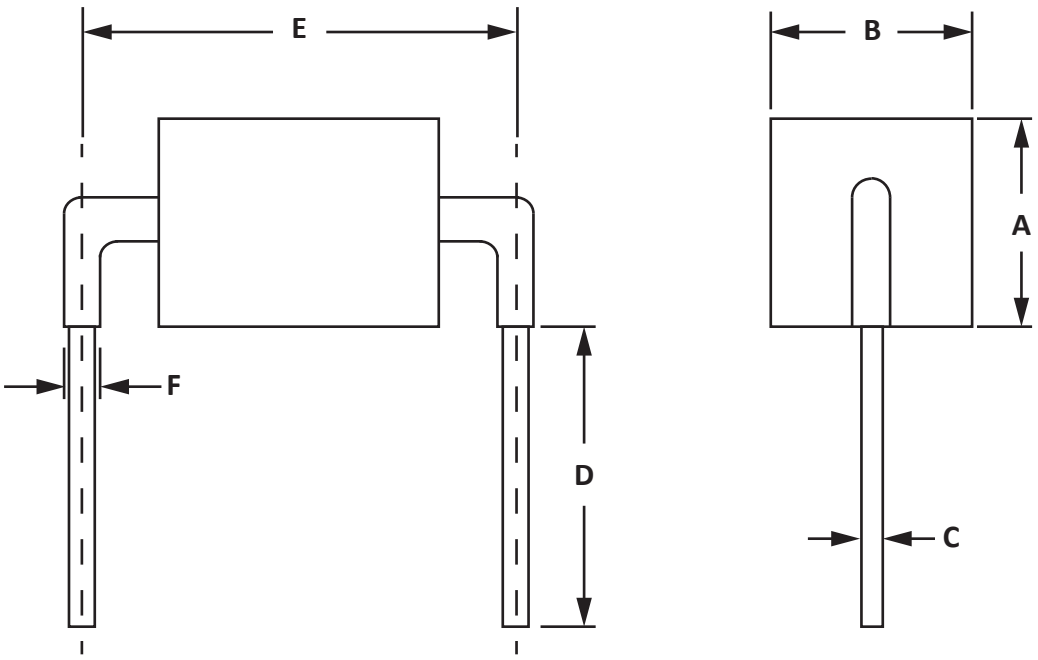


FIGURE 2
POWER DERATING CURVE



AXIAL LEAD PACKAGE INFORMATION

OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	-	14.5	-	0.57
B	-	12.7	-	0.50
C	1.28	1.32	0.050	0.052
D	5.0	7.0	0.20	0.28
E	23.45	24.85	0.92	0.98
F	-	2.5	-	0.10



COMPANY INFORMATION

COMPANY PROFILE

In business more than 25 years, ProTek Devices™ is a privately held semiconductor company. The company offers a product line of overvoltage protection and overcurrent protection components. These include transient voltage suppressor array (TVS arrays) avalanche breakdown diode, steering diode TVS array and electronics SMD chip fuses. These components deliver circuit protection in electronic systems from numerous overvoltage and overcurrent events. They include lightning; electrostatic discharge (ESD); nuclear electromagnetic pulses (NEMP); inductive switching; and electromagnetic interference (EMI) / radio frequency interference (RFI). ProTek Devices also offers LED wafer die for ESD protection and related high frequency products. ProTek Devices is ISO 9001:2015 certified.

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