

Transient Voltage Suppressor Diodes

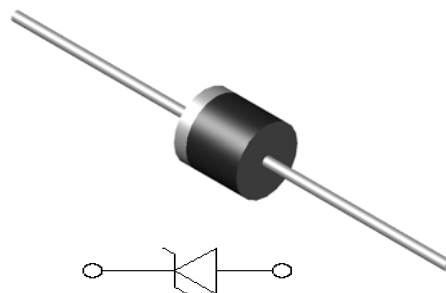
FEATURE

- ✧ Plastic package.
- ✧ Glass passivated chip junction in P600 Package
- ✧ Excellent clamping capability.
- ✧ Low zener impedance.
- ✧ 5000W peak pulse power capability on 10/1000 μ s waveform.
- ✧ Typical IR less than 2 μ A above 11V.
- ✧ Fast response time: typically less than 1.0ps from 0 Volts to BV min.
- ✧ High temperature soldering guaranteed: 265 $^{\circ}$ C/10 seconds

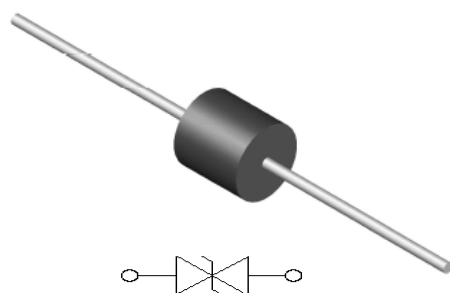
MECHANICAL DATE

- ✧ Case: JEDEC P600 Molded Plastic.
- ✧ Terminals: Axial leads, solderable per MIL-STD-750, Method 2026.
- ✧ Polarity: Color band denoted cathode except bidirectional.
- ✧ Mounting Position: Any.

Uni-directional



Bi-directional



MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25 $^{\circ}$ C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 μ s waveform (Note1, Fig.1).	P _{PPM}	Minimum5000	Watts
Peak Pulse Current of on 10/1000 μ s waveform. (Note1, Fig. 3)	I _{PPM}	See Table	Amps
Steady State Power Dissipation at TL =75 $^{\circ}$ C, Lead lengths. 375", (9.5mm) (Fig. 5).	P _{M(AV)}	8.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load, (JEDEC Method) (Note 2, Fig. 6).	I _{FSM}	400	Amps
Operating junction and Storage Temperature Range.	T _J , T _{STG}	-55 to +150	$^{\circ}$ C

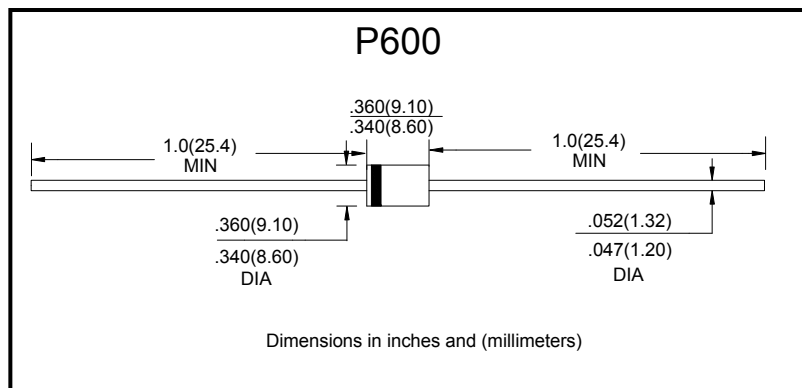
Notes:

1. Non-repetitive current pulse, per Fig. 3 and derated above TA = 25 $^{\circ}$ C per Fig. 2.
2. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

■ Ordering Information (Example)

PREFERRED	PACKAGE CODE	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
5K P Series	P600	350	350	3500	Ammo box

■ Outline Dimensions



ELECTRICAL CHARACTERISTICS

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage NIN.@IT	Breakdown Voltage MAX.@IT	Reverse Leakage @VRWM	Test Current	Peak Pulse Current	Maximum Clamping Voltage @IPP
UNT	BI	VR(V)	VBL(V)	VBH(V)	IR(uA)	IT(mA)	IPP(A)	VCH(V)
5KP5.0A	5KP5.0CA	5.0	6.40	7.00	5000	50	554.3	9.2
5KP6.0A	5KP6.0CA	6.0	6.67	7.37	5000	50	495.1	10.3
5KP6.5A	5KP6.5CA	6.5	7.22	7.98	2000	50	455.4	11.2
5KP7.0A	5KP7.0CA	7.0	7.78	8.60	1000	50	425	12.0
5KP7.5A	5KP7.5CA	7.5	8.33	9.21	250	5	395.3	12.9
5KP8.0A	5KP8.0CA	8.0	8.89	9.83	150	5	375	13.6
5KP8.5A	5KP8.5CA	8.5	9.44	10.40	50	5	354.2	14.4
5KP9.0A	5KP9.0CA	9.0	10.00	11.10	20	5	331.2	15.4
5KP10A	5KP10CA	10	11.10	12.30	15	5	300	17.0
5KP11A	5KP11CA	11	12.20	13.50	2	5	280.2	18.2
5KP12A	5KP12CA	12	13.30	14.70	2	5	256.3	19.9
5KP13A	5KP13CA	13	14.40	15.90	2	5	237.2	21.5
5KP14A	5KP14CA	14	15.60	17.20	2	5	219.8	23.2
5KP15A	5KP15CA	15	16.70	18.50	2	5	209	24.4
5KP16A	5KP16CA	16	17.80	19.70	2	5	196.2	26.0

5KP SERIES



Part Number		Reverse Stand-Off Voltage	Breakdown Voltage NIN.@IT	Breakdown Voltage MAX.@IT	Reverse Leakage @VRWM	Test Current	Peak Pulse Current	Maximum Clamping Voltage @IPP
UNT	BI	VR(V)	VBL(V)	VBH(V)	IR(μA)	IT(mA)	IPP(A)	VCH(V)
5KP17A	5KP17CA	17	18.90	20.90	2	5	184.8	27.6
5KP18A	5KP18CA	18	20.00	22.10	2	5	174.7	29.2
5KP20A	5KP20CA	20	22.20	24.50	2	5	157.4	32.4
5KP22A	5KP22CA	22	24.40	26.90	2	5	143.7	35.5
5KP24A	5KP24CA	24	26.70	29.50	2	5	131.1	38.9
5KP26A	5KP26CA	26	28.90	31.90	2	5	121.1	42.1
5KP28A	5KP28CA	28	31.10	34.40	2	5	112.3	45.4
5KP30A	5KP30CA	30	33.30	36.80	2	5	105.4	48.4
5KP33A	5KP33CA	33	36.70	40.60	2	5	95.7	53.3
5KP36A	5KP36CA	36	40.00	44.20	2	5	87.8	58.1
5KP40A	5KP40CA	40	44.40	49.10	2	5	79.1	64.5
5KP43A	5KP43CA	43	47.80	52.80	2	5	73.5	69.4
5KP45A	5KP45CA	45	50.00	55.30	2	5	70.2	72.7
5KP48A	5KP48CA	48	53.30	58.90	2	5	65.9	77.4
5KP51A	5KP51CA	51	56.70	62.70	2	5	61.9	82.4
5KP54A	5KP54CA	54	60.00	66.30	2	5	58.6	87.1
5KP58A	5KP58CA	58	64.40	71.20	2	5	54.5	93.6
5KP60A	5KP60CA	60	66.70	73.70	2	5	52.7	96.8
5KP64A	5KP64CA	64	71.10	78.60	2	5	49.5	103
5KP70A	5KP70CA	70	77.80	86.00	2	5	45.1	113
5KP75A	5KP75CA	75	83.30	92.10	2	5	42.1	121
5KP78A	5KP78CA	78	86.70	95.80	2	5	40.5	126
5KP85A	5KP85CA	85	94.4	104.0	2	5	37.2	137
5KP90A	5KP90CA	90	100.0	111.0	2	5	34.9	146
5KP100A	5KP100CA	100	111.0	123.0	2	5	31.5	162
5KP110A	5KP110CA	110	122.0	135.0	2	5	28.8	177
5KP120A	5KP120CA	120	133.0	147.0	2	5	26.4	193
5KP130A	5KP130CA	130	144.0	159.0	2	5	24.4	209
5KP150A	5KP150CA	150	167.0	185.0	2	5	21	243
5KP160A	5KP160CA	160	178.0	197.0	2	5	19.7	259
5KP170A	5KP170CA	170	189.0	209.0	2	5	18.5	275
5KP180A	5KP180CA	180	201.0	222.0	2	5	17.5	292
5KP190A	5KP190CA	190	211.0	233.0	2	5	16.5	308
5KP200A	5KP200CA	200	224.0	247.0	2	5	15.5	324
5KP210A	5KP210CA	210	237.0	263.0	2	5	14.6	340
5KP220A	5KP220CA	220	246.0	272.0	2	5	13.7	356
5KP250A	5KP250CA	250	279.0	309.0	2	5	12	425
5KP300A	5KP300CA	300	335.0	371.0	2	5	10.5	486
5KP350A	5KP350CA	350	391.0	432.0	2	5	9	567
5KP400A	5KP400CA	400	447.0	494.0	2	5	7.75	658
5KP440A	5KP440CA	440	492.0	543.0	2	5	6.85	742.2

Notes: For bidirectional type having VRWM of 10 volts and less, the IR limit is double.

RATINGS AND CHARACTERISTIC CURVES (TA=25°C unless otherwise noted)

Figure 1 - Peak Pulse Power Rating Curve

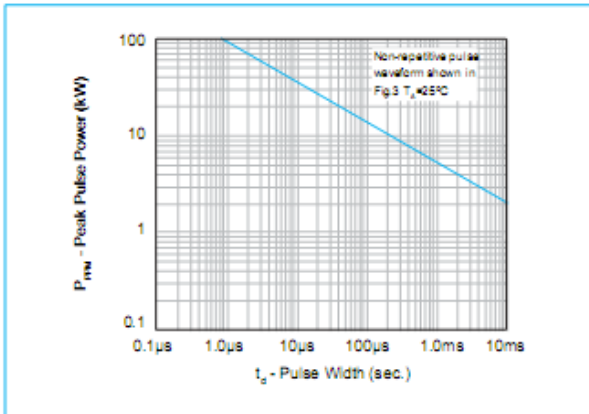


Figure 2 - Pulse Derating Curve

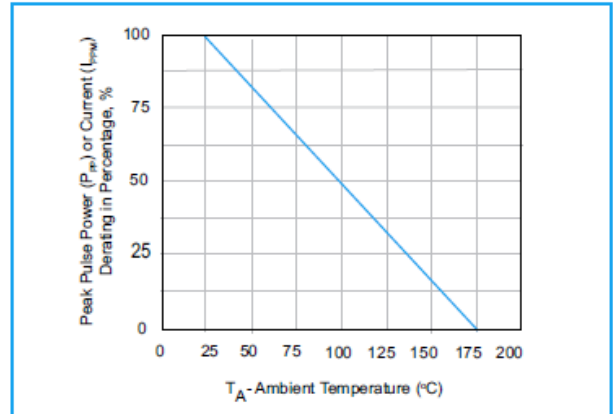


Figure 3 - Pulse Waveform

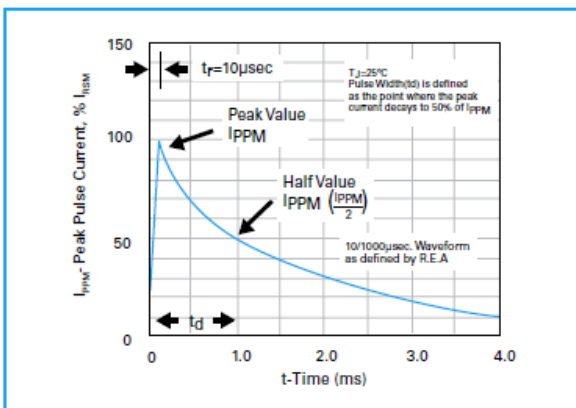


Figure 4 - Typical Junction Capacitance Uni-Directional

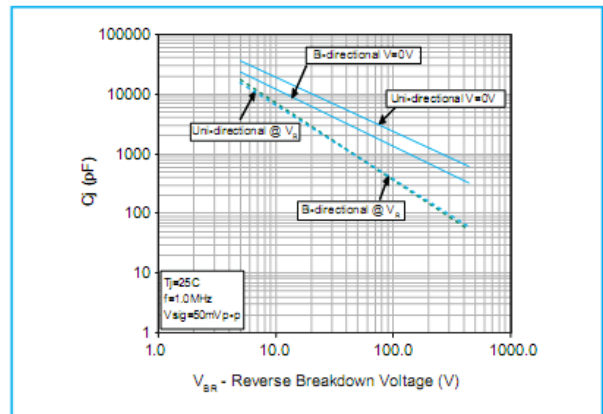


Figure 5 - Steady State Power Dissipation Derating Curve

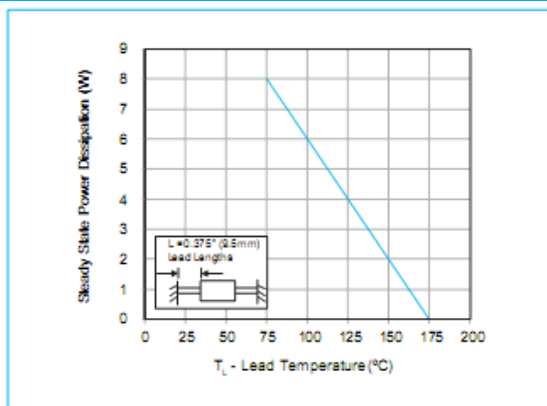
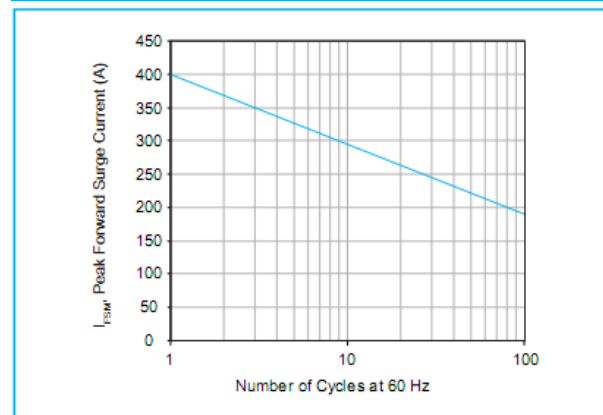


Figure 6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only



IMPORTANT NOTICE AND DISCLAIMER

AM RESERVES THE RIGHT TO MAKE CHANGES TO ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE. CUSTOMERS SHOULD OBTAIN AND CONFIRM THE LATEST PRODUCT INFORMATION AND SPECIFICATIONS BEFORE FINAL DESIGN PURCHASE OR USE.

AM disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

All information are provided as-is, even it has qualified by the AEC-Q101 which satisfy industrial application requirement, except as expressly stated in this data sheet is applied for automotive grade, AM make no warranties, representation or guarantee, whether express, implied or statutory, including, without limitation, regarding any merchantability, satisfactory quality, or fitness for a particular purpose with respect to AM.

AM does not assume any liability or compensation for any application assistance or customer product design, and make no warranty or accept any liability with products, which are purchased or used for any unintended or unauthorized application.

Except as expressly indicated in writing, AM products are not designed for use in medical, life-saving, or lifesustaining applications or for any other application in which the failure of the AM product could result in personal injury or death. Customers using or selling AM products not expressly indicated for use in such applications do so at their own risk. Please contact authorized AM personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of AM. Product names and markings noted herein may be trademarks of their respective owners.