NLightning Technology

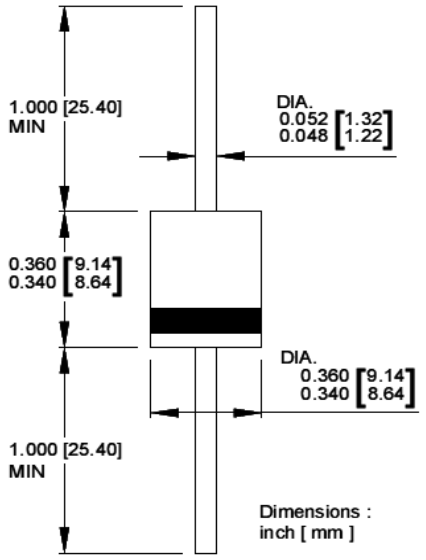
3KP Series

3000W AXIAL LEAD TVS

Features

- Glass Passivated Chip
- Low Leakage
- Uni and Bidirectional Unit
- Excellent Clamping Capability
- Very Fast Response Time
- RoHS Compliant
- 3000 W peak pulse power capability with 10/1000us waveform, repetitive rate (dutycycle):0.01 %

Package



P600

Application

- IPC
- Car Electronics
- Power Supply
- Smart Meters

Mechanical Characteristics

- Case: Molded Plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-202, method 208 guaranteed
- Polarity: Color band denotes cathode end except Bi-directional parts
- Mounting position: Any

DEVICE CHARACTORISTICS

Maximum Rating			
Parameter	**Symbol**	**Value**	**Units**
Peak Power Dissipation With 10/1000us Waveform	P_{PP}	3000	Watt
Peak Pulse Current With 10/1000us Waveform	I_{PP}	-	A
Power Dissipation On Infinite Heatsink @ T_L = 75°C	P_D	6.5	Watt
Peak Forward Surge Current	I_{FSM}	300	A
Maximum Instantaneous Forward Voltage @ 50 A	V_F	3.5/5	V
Operating Temperature Range	T_J	-55~150	°C
Storage Temperature Range	T_{STG}	-55~150	°C

ELECTRICAL CHARACTORISTICS @ 25°C								
Part Number	**Part Number**	**Breakdown Voltage VBR @IT**			**IR @ V_{RWM}**	**V_{RWM}**	**I_{PP}**	**V_C @ I_{PP}**
		Min V	**Max V**	**IT mA**	**uA**	**V**	**A**	**V**
3KP5.0A	3KP5.0CA	6.4	7.25	50	1000	5	326	9.2
3KP6.0A	3KP6.0CA	6.67	7.67	50	1000	6	291.3	10.3
3KP6.5A	3KP6.5CA	7.22	8.3	50	500	6.5	267.9	11.2
3KP7.0A	3KP7.0CA	7.78	8.95	50	200	7	250	12
3KP7.5A	3KP7.5CA	8.33	9.58	5	100	7.5	232.6	12.9
3KP8.0A	3KP8.0CA	8.89	10.23	5	50	8	220.6	13.6
3KP8.5A	3KP8.5CA	9.44	10.82	5	25	8.5	208.4	14.4
3KP9.0A	3KP9.0CA	10	11.5	5	10	9	194.8	15.4
3KP10A	3KP10CA	11.1	12.8	5	5	10	176.4	17
3KP11A	3KP11CA	12.2	14	5	5	11	184.8	18.2
3KP12A	3KP12CA	13.3	15.3	5	5	12	150.6	19.9
3KP13A	3KP13CA	14.4	16.5	5	5	13	139.4	21.5
3KP14A	3KP14CA	15.6	17.9	5	5	14	129.4	23.2
3KP15A	3KP15CA	16.7	19.2	5	5	15	123	24.4
3KP16A	3KP16CA	17.8	20.5	5	5	16	115.4	26
3KP17A	3KP17CA	18.9	21.7	5	5	17	106.6	27.6
3KP18A	3KP18CA	20	23.3	5	5	18	102.8	29.2
3KP20A	3KP20CA	22.2	25.5	5	5	20	92.6	32.4
3KP22A	3KP22CA	24.4	28	5	5	22	84.4	35.5
3KP24A	3KP24CA	26.7	30.7	5	5	24	77.2	38.9
3KP26A	3KP26CA	28.9	33.2	5	5	26	71.2	42.1

DEVICE CHARACTORISTICS

ELECTRICAL CHARACTORISTICS @ 25°C								
Part Number	Part Number	Breakdown Voltage VBR @IT			IR @ V_{RWM}	V_{RWM}	I_{PP}	V_C @ I_{PP}
		Min V	Max V	IT mA	uA	V	A	V
3KP28A	3KP28CA	31.1	35.8	5	5	28	66	45.4
3KP30A	3KP30CA	33.3	38.3	5	5	30	62	48.4
3KP33A	3KP33CA	36.7	42.2	5	5	33	56.2	53.3
3KP36A	3KP36CA	40	46	5	5	36	51.6	58.1
3KP40A	3KP40CA	44.4	51.1	5	5	40	46.4	64.5
3KP43A	3KP43CA	47.8	54.9	5	5	43	43.2	69.4
3KP45A	3KP45CA	50	57.5	5	5	45	41.2	72.7
3KP48A	3KP48CA	53.3	61.3	5	5	48	38.8	77.4
3KP51A	3KP51CA	56.7	65.2	5	5	51	36.4	82.4
3KP54A	3KP54CA	60	69	5	5	54	34.4	87.1
3KP58A	3KP58CA	64.4	74.1	5	5	58	32	93.6
3KP60A	3KP60CA	66.7	76.7	5	5	60	31	96.8
3KP64A	3KP64CA	71.1	81.8	5	5	64	29.2	103
3KP70A	3KP70CA	77.8	89.5	5	5	70	26.6	113
3KP75A	3KP75CA	83.3	95.8	5	5	75	24.8	121
3KP78A	3KP78CA	86.7	99.7	5	5	78	22.8	126
3KP85A	3KP85CA	94.4	108.2	5	5	85	20.8	137
3KP90A	3KP90CA	100	115.5	5	5	90	20.6	146
3KP100A	3KP100CA	111	128	5	5	100	18.6	162
3KP110A	3KP110CA	122	140.5	5	5	110	16.8	177
3KP120A	3KP120CA	133	153	5	5	120	15.6	193
3KP130A	3KP130CA	144	165.5	5	5	130	14.4	209
3KP150A	3KP150CA	167	192.5	5	5	150	12.4	243
3KP160A	3KP160CA	178	205	5	5	160	11.6	259
3KP170A	3KP170CA	189	217.5	5	5	170	11	275
3KP180A	3KP180CA	198	230.4	5	5	180	10.3	292
3KP190A	3KP190CA	209	243.2	5	5	190	9.7	308
3KP200A	3KP200CA	220	256	5	5	200	9.3	324
3KP210A	3KP210CA	231	268.8	5	5	210	8.8	340
3KP220A	3KP220CA	242	281.6	5	5	220	8.4	356
3KP250A	3KP250CA	279	309	5	5	250	7.4	405
3KP300A	3KP300CA	335	371	5	5	300	6.1	486
3KP350A	3KP350CA	391	432	5	5	350	5.2	567
3KP400A	3KP400CA	447	494	5	5	400	4.6	648
3KP440A	3KP440CA	492	543	5	5	440	4.2	713

RATING CURVES

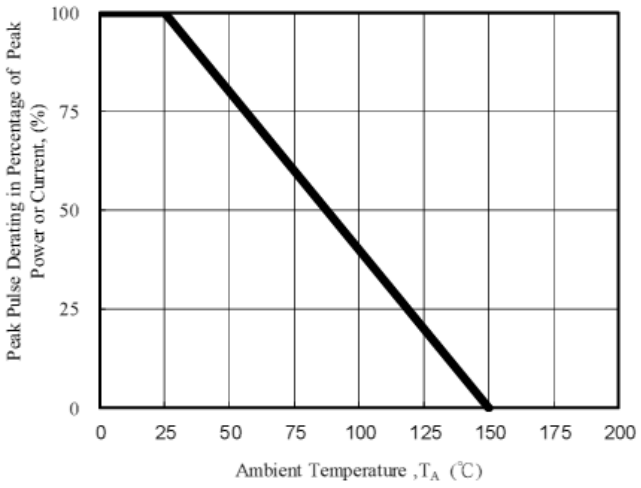


Fig. 1 - Pulse Derating Curve

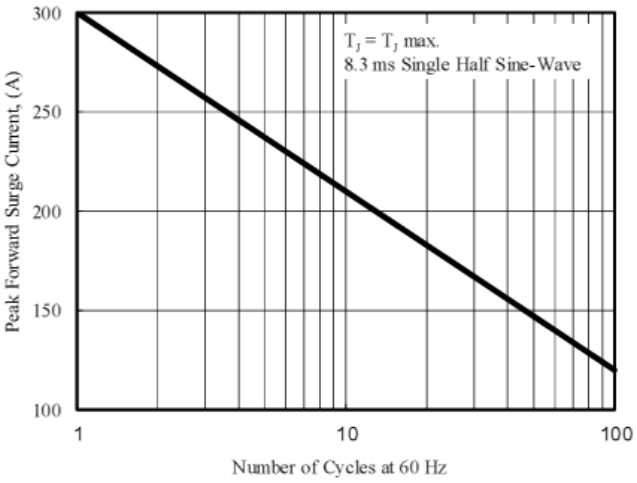


Fig. 2 - Maximum Non-Repetitive Surge Current

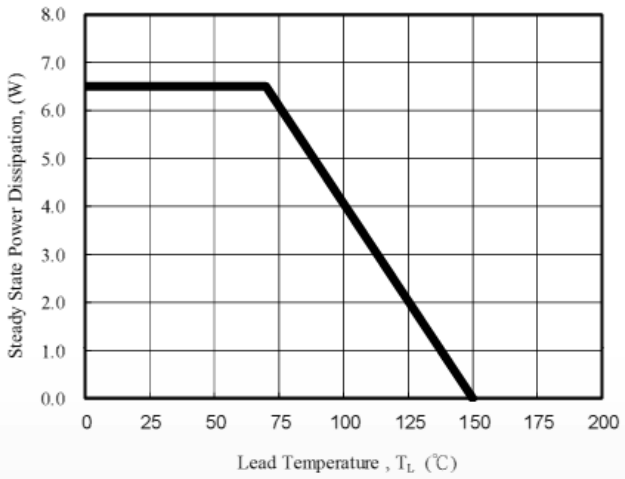


Fig. 3 - Steady State Power Derating Curve

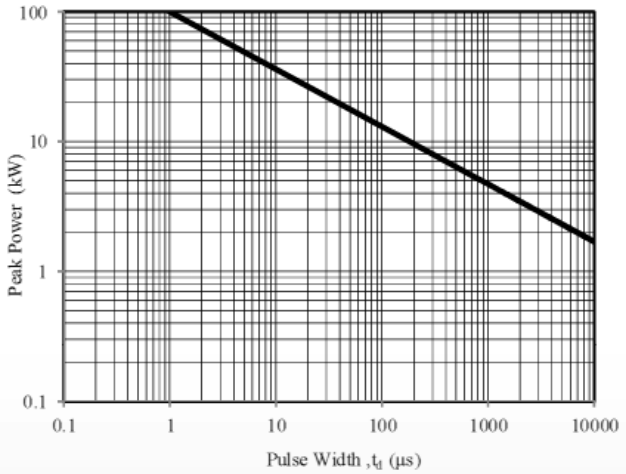


Fig. 4 - Peak Pulse Power Rating Curve

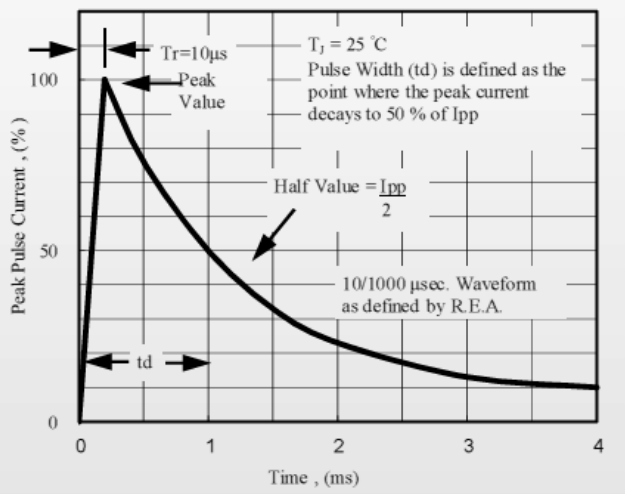


Fig. 5 - Pulse Waveform

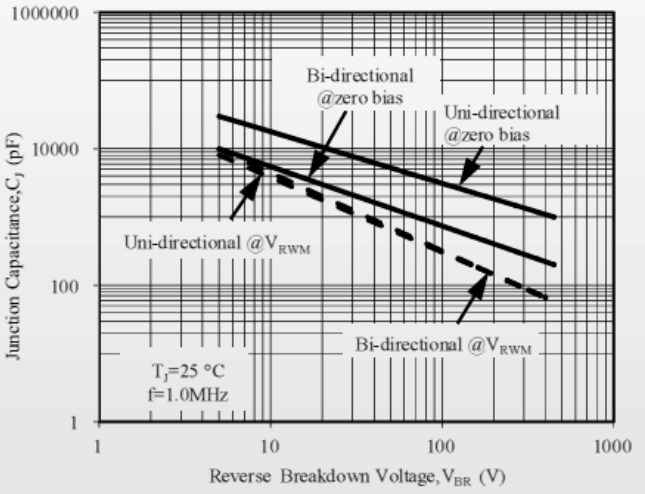


Fig. 6 - Typical Junction Capacitance

REFERENCE

Revision History	Modification Description
Rev.1.0	Initial Release
Rev.1.01	Edit Document Layout