New Jersey Semi-Conductor Products, Inc.

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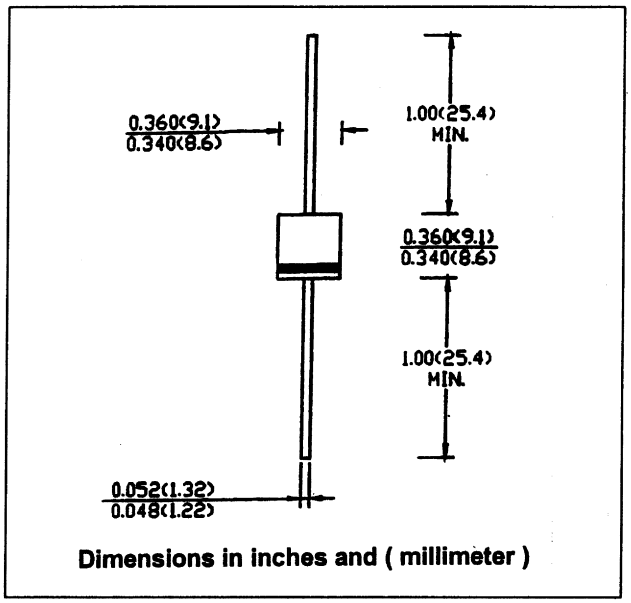
15KP SERIES

TRANSIENT VOLTAGE SUPPRESSOR

V_R : 12 - 240 Volts
P_{PK} : 15,000 Watts



Dimensions in inches and (millimeter)

FEATURES :

* Excellent Clamping Capability
* Fast Response Time
* Low Zener Impedance
* Low Leakage Current

MECHANICAL DATA

* Case : Molded plastic
* Epoxy : UL94V-O rate flame retardant
* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
* Polarity : Cathode polarity band
* Mounting position : Any
* Weight : 2.73 grams

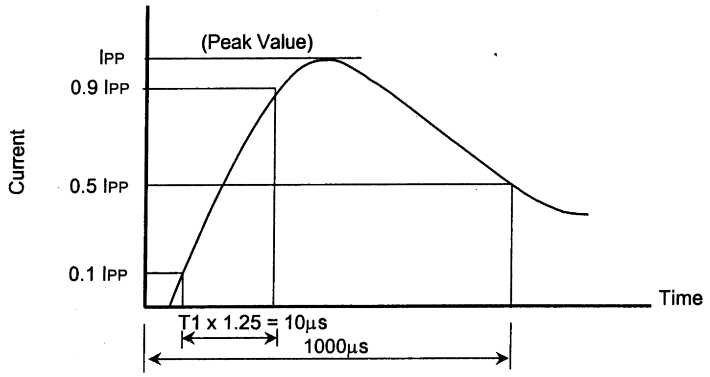
MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Peak Pulse Power Dissipation (10X1000μs, see Fig.1)	P_{PK}	15,000	Watts
Steady State Power Dissipation	P_D	7.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Uni-directional devices only)	I_{FSM}	200	Amps.
Operating and Storage Temperature Range	T_J, T_{STG}	- 55 to + 150	°C

This pulse is a standard test waveform used for protection devices.

Fig. 1



ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

Part Number (Uni-directional)	Part Number (Bi-directional)	Reverse Stand Off Voltage	Breakdown Voltage @ I_T		Maximum Reverse Leakage @ V_R	Maximum Clamping Voltage @ I_{PP}	Maximum Peak Pulse Current	Max. Voltage Temperature Variation of V_{BR}
		V_R	V_{BR} (V)	I_T	I_R	V_C	I_{PP}	
		(V)	Min.	(mA)	(μA)	(V)	(A)	(mV/°C)
15KP12	**15KP12C**	12	13.3	50.0	10,000	22.0	658	12
15KP12A	**15KP12CA**	12	13.3	50.0	10,000	19.9	725	12
15KP13	**15KP13C**	13	14.4	50.0	10,000	23.8	607	13
15KP13A	**15KP13CA**	13	14.4	50.0	10,000	21.5	669	13
15KP14	**15KP14C**	14	15.6	50.0	8,000	25.8	564	14
15KP14A	**15KP14CA**	14	15.6	50.0	8,000	23.2	622	14
15KP15	**15KP15C**	15	16.7	50.0	8,000	26.9	526	16
15KP15A	**15KP15CA**	15	16.7	50.0	8,000	24.4	580	16
15KP16	**15KP16C**	16	17.8	50.0	8,000	28.8	493	19
15KP16A	**15KP16CA**	16	17.8	50.0	8,000	26.0	544	17
15KP17	**15KP17C**	17	18.9	50.0	5,000	32.2	464	19
15KP17A	**15KP17CA**	17	18.9	50.0	5,000	29.3	512	17
15KP18	**15KP18C**	18	20.0	50.0	5,000	34.2	439	20
15KP18A	**15KP18CA**	18	20.0	50.0	5,000	30.9	485	18
15KP20	**15KP20C**	20	22.2	20.0	1,500	37.9	396	24
15KP20A	**15KP20CA**	20	22.2	20.0	1,500	34.3	437	21
15KP22	**15KP22C**	22	24.4	10.0	500	41.1	365	27
15KP22A	**15KP22CA**	22	24.4	10.0	500	37.1	404	24
15KP24	**15KP24C**	24	26.7	5.0	150	45.0	333	30
15KP24A	**15KP24CA**	24	26.7	5.0	150	40.7	369	27
15KP26	**15KP26C**	26	28.9	5.0	50	48.7	308	32
15KP26A	**15KP26CA**	26	28.9	5.0	50	44.0	341	29
15KP28	**15KP28C**	28	31.1	5.0	25	52.4	286	35
15KP28A	**15KP28CA**	28	31.1	5.0	25	47.5	316	31
15KP30	**15KP30C**	30	33.3	5.0	15	56.2	267	37
15KP30A	**15KP30CA**	30	33.3	5.0	15	50.7	296	33
15KP33*	**15KP33C**	33	36.7	5.0	10	60.6	248	42
15KP33A*	**15KP33CA**	33	36.7	5.0	10	54.8	274	38
15KP36*	**15KP36C***	36	40.0	5.0	10	66.0	227	46
15KP36A*	**15KP36CA***	36	40.0	5.0	10	59.7	251	41
15KP40*	**15KP40C**	40	44.4	5.0	10	72.8	206	51
15KP40A*	**15KP40CA**	40	44.4	5.0	10	65.8	228	46
15KP43	**15KP43C**	43	47.8	5.0	10	77.1	195	55
15KP43A	**15KP43CA**	43	47.8	5.0	10	69.7	215	50
15KP45	**15KP45C**	45	50.0	5.0	10	80.7	186	57
15KP45A	**15KP45CA**	45	50.0	5.0	10	73.0	205	52
15KP48*	**15KP48C***	48	53.3	5.0	10	85.9	175	62
15KP48A*	**15KP48CA***	48	53.3	5.0	10	77.7	193	56
15KP51	**15KP51C**	51	56.7	5.0	10	91.5	164	66
15KP51A	**15KP51CA**	51	56.7	5.0	10	82.5	181	60
15KP54	**15KP54C**	54	60.0	5.0	10	96.8	155	70
15KP54A	**15KP54CA**	54	60.0	5.0	10	87.5	171	63
15KP58	**15KP58C**	58	64.4	5.0	10	104	144	76
15KP58A	**15KP58CA**	58	64.4	5.0	10	94	160	68
15KP60	**15KP60C**	60	66.7	5.0	10	107	140	78
15KP60A	**15KP60CA**	60	66.7	5.0	10	97.3	154	70
15KP64	**15KP64C**	64	71.1	5.0	10	115	130	84
15KP64A	**15KP64CA**	64	71.1	5.0	10	104	144	76
15KP70	**15KP70C***	70	77.8	5.0	10	126	119	92
15KP70A	**15KP70CA***	70	77.8	5.0	10	114	132	83

ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

Part Number (Uni-directional)	Part Number (Bi-directional)	Reverse Stand Off Voltage	Breakdown Voltage @ I_T		Maximum Reverse Leakage @ V_R	Maximum Clamping Voltage @ I_{PP}	Maximum Peak Pulse Current	Max. Voltage Temperature Variation of V_{BR}
		V_R	V_{BR} (V)	I_T	I_R	V_C	I_{PP}	
		(V)	Min.	(mA)	(μA)	(V)	(A)	(mV/°C)
15KP75	**15KP75C**	75	83.3	5.0	10	135	111	100
15KP75A	**15KP75CA**	75	83.3	5.0	10	122	123	89
15KP78	**15KP78C**	78	86.7	5.0	10	140	107	104
15KP78A	**15KP78CA**	78	86.7	5.0	10	126	119	93
15KP85	**15KP85C**	85	94.4	5.0	10	152	99	113
15KP85A	**15KP85CA**	85	94.4	5.0	10	137	109	102
15KP90	**15KP90C**	90	100	5.0	10	160	94	120
15KP90A	**15KP90CA**	90	100	5.0	10	146	103	110
15KP100	**15KP100C**	100	111	5.0	10	179	84	134
15KP100A	**15KP100CA**	100	111	5.0	10	162	93	123
15KP110	**15KP110C**	110	122	5.0	10	196	77	147
15KP110A	**15KP110CA**	110	122	5.0	10	178	84	133
15KP120	**15KP120C**	120	133	5.0	10	214	70	161
15KP120A	**15KP120CA**	120	133	5.0	10	193	78	146
15KP130	**15KP130C**	130	144	5.0	10	231	65	174
15KP130A	**15KP130CA**	130	144	5.0	10	209	72	158
15KP150	**15KP150C**	150	167	5.0	10	268	56	202
15KP150A	**15KP150CA**	150	167	5.0	10	243	62	184
15KP160	**15KP160C**	160	178	5.0	10	287	52	216
15KP160A	**15KP160CA**	160	178	5.0	10	259	58	196
15KP170	**15KP170C**	170	189	5.0	10	304	49	229
15KP170A	**15KP170CA**	170	189	5.0	10	275	55	208
15KP180	**15KP180C**	180	200	5.0	10	321	47	242
15KP180A	**15KP180CA**	180	200	5.0	10	287	52	220
15KP200	**15KP200C**	200	222	5.0	10	356	42	296
15KP200A	**15KP200CA**	200	222	5.0	10	325	46	274
15KP220	**15KP220C**	220	245	5.0	10	393	38	297
15KP220A	**15KP220CA**	220	245	5.0	10	347	43	273
15KP240	**15KP240C**	240	267	5.0	10	428	35	324
15KP240A	**15KP240CA**	240	267	5.0	10	387	39	300

Note:

Suffix " A " denotes 5% tolerance device , no suffix denotes a 10% tolerance device.

* Prefered Voltages.

Fig. 2 - Peak Pulse Power vs. Pulse Time

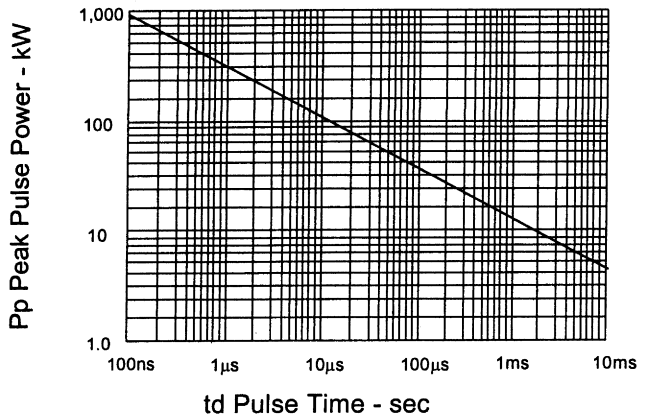
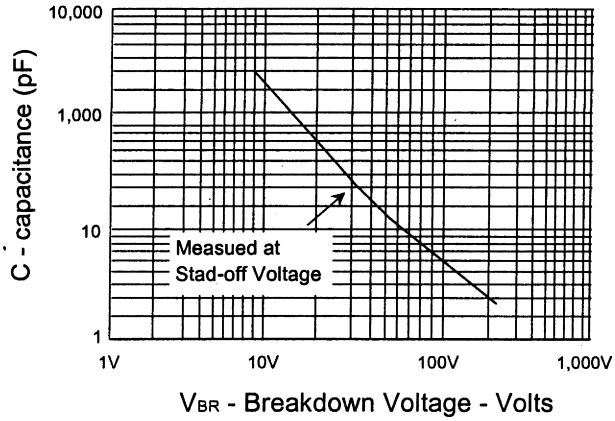



Fig. 3 - Typical Capacitance vs. Breakdown Voltage