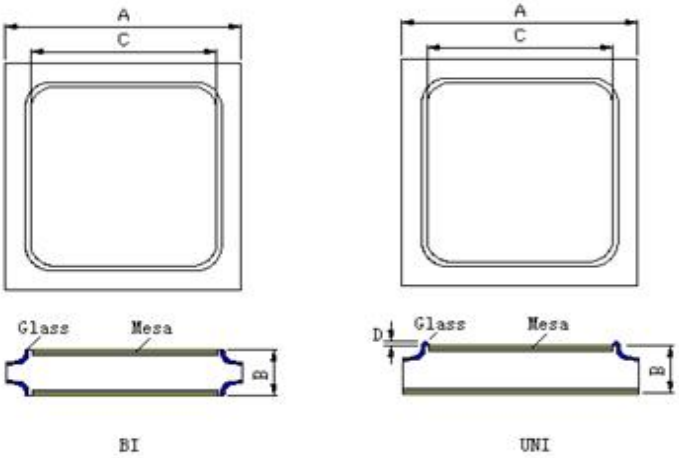
GOOD-ARK
SEMICONDUCTOR

Peak Pulse Power 3000W

Glass Passivated TVS

Features

- Glass passivated chip
- Low inductance
- Excellent clamping capability
- Very fast response time
- 3000 W peak pulse power capability with a 10/1000 μs waveform
- Compatible with soldering



Devices for Bidirectional Applications

- For bi-directional devices, use suffix C or CA Electrical characteristics apply in both directions.

Process Details

Chip Type	PDPW (pcs/4"wafer)	Size（mil）				Surface Metalization
		A (+1/-2)	B（±2）	C（±2）	D（±1）	
GDT3KP	316	180	13	151	1.5	Ni(0.6~1um)/ Au(0.05um)

Maximum Ratings & Thermal Characteristics

(TA = 25 °C unless otherwise noted)

Parameter	Symbol	VALUE	UNIT
Peak pulse power dissipation with a 10/1000μs waveform	P_{PPM}	3000	W
Peak pulse current with a waveform (see fig. 3 , single pulse)	I_{PPM}	See Next Table	A

1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25℃ per Fig. 2

GDT3KP5.0A thru GDT3KP220A

Type	Breakdown Voltage at I_T (1) $V_{(BR)}$ (V)		Test Current	Stand-off Voltage	Maximum Reverse Leakage at V_{WM}	Maximum Peak Pulse Surge Current (2)	Maximum Clamping Voltage at I_{PPM}
	Min	Max	I_T (mA)	V_{WM} (V)	I_D (μA)	I_{PPM} (A)	V_C (V)
GDT3KP5.0A	6.4	7.25	10	5	2000	326	9.2
GDT3KP6.0A	6.67	7.67	10	6	5000	291.3	10.3
GDT3KP6.5A	7.22	8.3	10	6.5	2000	267.9	11.2
GDT3KP7.0A	7.78	8.95	10	7	1000	250	12
GDT3KP7.5A	8.33	9.58	1	7.5	250	232.6	12.9
GDT3KP8.0A	8.89	10.23	1	8	150	220.6	13.6
GDT3KP8.5A	9.44	10.82	1	8.5	50	208.4	14.4
GDT3KP9.0A	10	11.5	1	9	20	194.8	15.4
GDT3KP10A	11.1	12.8	1	10	15	176.4	17
GDT3KP11A	12.2	14	1	11	10	184.9	18.2
GDT3KP12A	13.3	15.3	1	12	5	150.6	19.9
GDT3KP13A	14.4	16.5	1	13	2	139.4	21.5
GDT3KP14A	15.6	17.9	1	14	2	129.4	23.2
GDT3KP15A	16.7	19.2	1	15	2	123	24.4
GDT3KP16A	17.8	20.5	1	16	2	115.4	26
GDT3KP17A	18.9	21.7	1	17	2	106.6	27.6
GDT3KP18A	20	23.3	1	18	2	102.8	29.2
GDT3KP20A	22.2	25.5	1	20	2	92.6	32.4
GDT3KP22A	24.4	28	1	22	2	84.4	35.5
GDT3KP24A	26.7	30.7	1	24	2	77.2	38.9
GDT3KP26A	28.9	33.2	1	26	2	71.2	42.1
GDT3KP28A	31.1	35.8	1	28	2	66	45.4
GDT3KP30A	33.3	38.3	1	30	2	62	48.4
GDT3KP33A	36.7	42.2	1	33	2	56.2	53.3
GDT3KP36A	40	46	1	36	2	51.6	58.1
GDT3KP40A	44.4	51.1	1	40	2	46.4	64.5
GDT3KP43A	47.8	54.9	1	43	2	43.2	69.4
GDT3KP45A	50	57.5	1	45	2	41.2	72.7
GDT3KP48A	53.3	61.3	1	48	2	38.8	77.4
GDT3KP51A	56.7	65.2	1	51	2	36.4	82.4
GDT3KP54A	60	69	1	54	2	34.4	87.1
GDT3KP58A	64.4	74.1	1	58	2	32	94
GDT3KP60A	66.7	76.7	1	60	2	31	97
GDT3KP64A	71.1	81.8	1	64	2	29.2	103
GDT3KP70A	77.8	89.5	1	70	2	26.8	113
GDT3KP75A	83.3	95.8	1	75	2	24.8	121
GDT3KP78A	86.7	99.7	1	78	2	22.8	126
GDT3KP85A	94.4	108.2	1	85	2	20.8	137
GDT3KP90A	100	115.5	1	90	2	20.6	146
GDT3KP100A	111	128	1	100	2	18.6	162
GDT3KP110A	122	140.5	1	110	2	16.8	177
GDT3KP120A	133	153	1	120	2	15.6	193

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	Min	Max	I_T (mA)	V_{WM} (V)	I_D (μA)	I_{PPM} (A)	V_C (V)
GDT3KP130A	144	165.5	1	130	2	14.4	209
GDT3KP150A	167	192.5	1	150	2	12.4	243
GDT3KP160A	178	205	1	160	2	11.6	259
GDT3KP170A	189	217.5	1	170	2	11	275
GDT3KP180A	196	230.4	1	180	2	10.3	292
GDT3KP190A	209	243.2	1	190	2	9.7	308
GDT3KP200A	220	256	1	200	2	9.3	324
GDT3KP210A	231	268.8	1	210	2	8.8	340
GDT3KP220A	242	281.6	1	220	2	8.4	356

Notes: (1) $V_{(BR)}$ measured after I_T applied for 300us square wave pulse or equivalent

(2) Surge current waveform Per Fig. 3 and derate Per Fig. 2

(3) For bi-directional types having V_{WM} of 10 Volts and less, the I_D limit is doubled

(4) Ratings at 25°C ambient temperature unless otherwise specified.

Characteristic Curves (T_A=25 ℃ unless otherwise noted)

GDT3KP5.0A thru GDT3KP220A

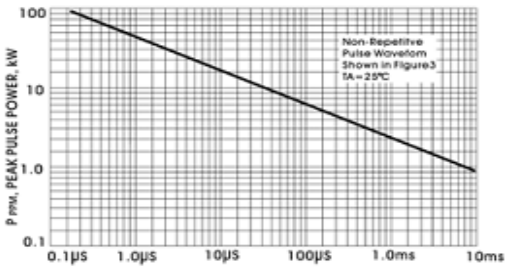

FIGURE 1-PEAK PULSE POWER VS PULSE TIME

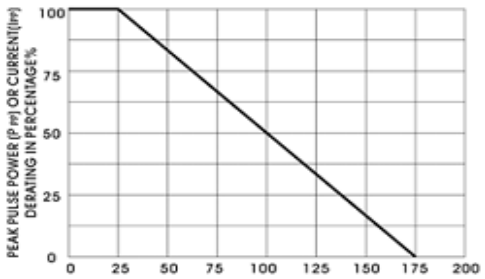

FIGURE2 DERATING CURVE

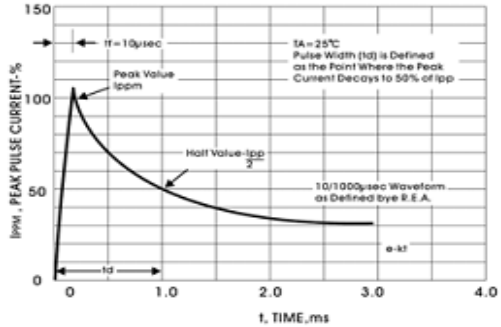

FIGURE 3-PULSE WAVEFORM

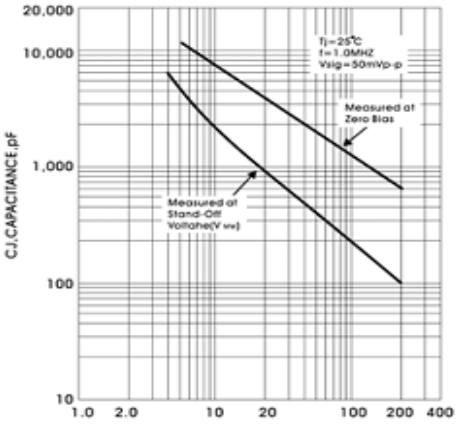

FIGURE 4
TYPICAL CAPACITANCE
VS STAND-OFF VOLTAGE