YEA SHIN TECHNOLOGY CO., LTD

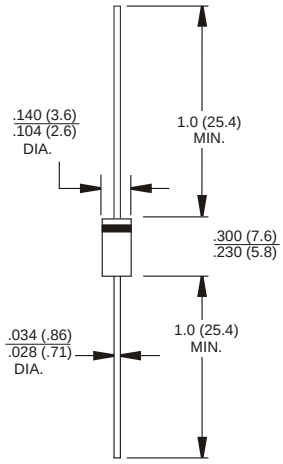
P6KE Series

Glass Passivated Junction Transient Voltage Suppressor 600W Peak Power Voltage 6.8 to 540V

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Typical IR less than 1μA above 10V
- 600W surge capability at 1ms
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1.0 ps from 0 volts to BV min
- High temperature soldering : 260^{O}C / 10 seconds at terminals
- Pb free product at available : 99% Sn above meet RoHS environment substance directive request

DO-15 Unit:inch(mm)



MECHANICAL DATA

- Case: JEDEC DO-15 Molded plastic
- Terminals: Axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denoted cathode except Bipolar
- Mounting Position: Any
- Quantify Per Reel : 3000 pcs

DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types

Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°Cambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.

For Capacitive load derate current by 20%

RATING	SYMBOL	VALUE	UNITS
Peak Power Dissipation on 10/1000us waveform (Note1.2 , Fig.1)	Ppp	600	Watts
Peak Forward Surge Current, 8.3ms single half sine - wave uni- directional only (JEDEC method) (Notes 2,3)	I_{FSM}	100	Amps
Peak Pulse Current on 10/1000us waveform (Note1, Fig.3)	I_{PP}	See Table 1	Amps
Operating and Storage Temperature Range	TJ, TSTG	-55 ~ +150	°C

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above TA = 25°C per Fig.2.
2. Mounted on 5.0 mm^2(0.13mm thick) land areas.
3. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

DEVICE CHARACTERISTICS

P6KE Series

Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage	Peak Pulse Curren
			V_{BR} @ I_T		I_T	I_R @ V_{RWM}		Vc @ Ipp	Ipp
		V_{RWM}	Min.	Max.		UNI	BI		
UNI	BI	V	V	V	mA	uA	uA	V	A
600W Transient Voltage Suppressor									
P6KE6.8	P6KE6.8C	5.5	6.12	7.48	10	1000	2000	10.8	55.6
P6KE6.8A	P6KE6.8CA	5.8	6.45	7.14	10	1000	2000	10.5	57.1
P6KE7.5	P6KE7.5C	6.1	6.75	8.25	10	500	1000	11.7	51.3
P6KE7.5A	P6KE7.5CA	6.4	7.13	7.88	10	500	1000	11.3	53.1
P6KE8.2	P6KE8.2C	6.6	7.38	9.02	10	200	400	12.5	48.0
P6KE8.2A	P6KE8.2CA	7.0	7.79	8.61	10	200	400	12.1	49.6
P6KE9.1	P6KE9.1C	7.4	8.19	10.00	1	50	100	13.8	43.5
P6KE9.1A	P6KE9.1CA	7.8	8.65	9.55	1	50	100	13.4	44.8
P6KE10	P6KE10C	8.1	9.00	11.00	1	10	20	15.0	40.0
P6KE10A	P6KE10CA	8.6	9.50	10.50	1	10	20	14.5	41.4
P6KE11	P6KE11C	8.9	9.90	12.10	1	5	10	16.2	37.0
P6KE11A	P6KE11CA	9.4	10.50	11.60	1	5	10	15.6	38.5
P6KE12	P6KE12C	9.7	10.80	13.20	1	5	5	17.3	34.7
P6KE12A	P6KE12CA	10.2	11.40	12.60	1	5	5	16.7	35.9
P6KE13	P6KE13C	10.5	11.70	14.30	1	5	5	19.0	31.6
P6KE13A	P6KE13CA	11.1	12.40	13.70	1	5	5	18.2	33.0
P6KE15	P6KE15C	12.1	13.50	16.50	1	5	5	22.0	27.3
P6KE15A	P6KE15CA	12.8	14.30	15.80	1	5	5	21.2	28.3
P6KE16	P6KE16C	12.9	14.40	17.60	1	5	5	23.5	25.5
P6KE16A	P6KE16CA	13.6	15.20	16.80	1	5	5	22.5	26.7
P6KE18	P6KE18C	14.5	16.20	19.80	1	5	5	26.5	22.6
P6KE18A	P6KE18CA	15.3	17.10	18.90	1	5	5	25.2	23.8
P6KE20	P6KE20C	16.2	18.00	22.00	1	5	5	29.1	20.6
P6KE20A	P6KE20CA	17.1	19.00	21.00	1	5	5	27.7	21.7
P6KE22	P6KE22C	17.8	19.80	24.20	1	5	5	31.9	18.8
P6KE22A	P6KE22CA	18.8	20.90	23.10	1	5	5	30.6	19.6
P6KE24	P6KE24C	19.4	21.60	26.40	1	5	5	34.7	17.3
P6KE24A	P6KE24CA	20.5	22.80	25.20	1	5	5	33.2	18.1
P6KE27	P6KE27C	21.8	24.30	29.70	1	5	5	39.1	15.3
P6KE27A	P6KE27CA	23.1	25.70	28.40	1	5	5	37.5	16.0
P6KE30	P6KE30C	24.3	27.00	33.00	1	5	5	43.5	13.8
P6KE30A	P6KE30CA	25.6	28.50	31.50	1	5	5	41.4	14.5
P6KE33	P6KE33C	26.8	29.70	36.30	1	5	5	47.7	12.6
P6KE33A	P6KE33CA	28.2	31.40	34.70	1	5	5	45.7	13.1
P6KE36	P6KE36C	29.1	32.40	39.60	1	5	5	52.0	11.5
P6KE36A	P6KE36CA	30.8	34.20	37.80	1	5	5	49.9	12.0
P6KE39	P6KE39C	31.6	35.10	42.90	1	5	5	56.4	10.6
P6KE39A	P6KE39CA	33.3	37.10	41.00	1	5	5	53.9	11.1
P6KE43	P6KE43C	34.8	38.70	47.30	1	5	5	61.9	9.7
P6KE43A	P6KE43CA	36.8	40.90	45.20	1	5	5	59.3	10.1
P6KE47	P6KE47C	38.1	42.30	51.70	1	5	5	67.8	8.8
P6KE47A	P6KE47CA	40.2	44.70	49.40	1	5	5	64.8	9.3
P6KE51	P6KE51C	41.3	45.90	56.10	1	5	5	73.5	8.2
P6KE51A	P6KE51CA	43.6	48.50	53.60	1	5	5	70.1	8.3
P6KE56	P6KE56C	45.4	50.40	61.60	1	5	5	80.5	7.5
P6KE56A	P6KE56CA	47.8	53.20	58.80	1	5	5	77.0	7.8

DEVICE CHARACTERISTICS

P6KE Series

Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage	Peak Pulse Curren
			V_{BR} @ I_T		I_T	I_R @ V_{RWM}		Vc @ Ipp	Ipp
		V_{RWM}	Min.	Max.		UNI	BI		
UNI	BI	V	V	V	mA	uA	uA	V	A
600W Transient Voltage Suppressor									
P6KE62	P6KE62C	50.2	55.80	68.20	1	5	5	89.0	6.7
P6KE62A	P6KE62CA	53.0	58.90	65.10	1	5	5	85.0	7.1
P6KE68	P6KE68C	55.1	61.20	74.80	1	5	5	98.0	6.1
P6KE68A	P6KE68CA	58.1	64.40	71.40	1	5	5	92.0	6.5
P6KE75	P6KE75C	60.7	67.50	82.50	1	5	5	108.0	5.6
P6KE75A	P6KE75CA	64.1	71.30	78.80	1	5	5	103.0	5.8
P6KE82	P6KE82C	66.4	73.80	90.20	1	5	5	118.0	5.1
P6KE82A	P6KE82CA	70.1	77.90	86.10	1	5	5	113.0	5.3
P6KE91	P6KE91C	73.7	81.90	100.00	1	5	5	131.0	4.6
P6KE91A	P6KE91CA	77.8	86.50	95.50	1	5	5	125.0	4.8
P6KE100	P6KE100C	81.0	90.00	110.00	1	5	5	144.0	4.2
P6KE100A	P6KE100CA	85.5	95.00	105.00	1	5	5	137.0	4.4
P6KE110	P6KE110C	89.2	99.00	121.00	1	5	5	158.0	3.8
P6KE110A	P6KE110CA	94.0	105.00	116.00	1	5	5	152.0	3.9
P6KE120	P6KE120C	97.2	108.00	132.00	1	5	5	173.0	3.5
P6KE120A	P6KE120CA	102.0	114.00	126.00	1	5	5	165.0	3.6
P6KE130	P6KE130C	105.0	117.00	143.00	1	5	5	187.0	3.2
P6KE130A	P6KE130CA	111.0	124.00	137.00	1	5	5	179.0	3.4
P6KE150	P6KE150C	121.0	135.00	165.00	1	5	5	215.0	2.8
P6KE150A	P6KE150CA	128.0	143.00	158.00	1	5	5	207.0	2.9
P6KE160	P6KE160C	130.0	144.00	176.00	1	5	5	230.0	2.6
P6KE160A	P6KE160CA	136.0	152.00	168.00	1	5	5	219.0	2.7
P6KE170	P6KE170C	138.0	153.00	187.00	1	5	5	244.0	2.5
P6KE170A	P6KE170CA	145.0	162.00	179.00	1	5	5	234.0	2.6
P6KE180	P6KE180C	146.0	162.00	198.00	1	5	5	258.0	2.3
P6KE180A	P6KE180CA	154.0	171.00	189.00	1	5	5	246.0	2.4
P6KE200	P6KE200C	162.0	180.00	220.00	1	5	5	287.0	2.1
P6KE200A	P6KE200CA	171.0	190.00	210.00	1	5	5	274.0	2.2
P6KE220	P6KE220C	175.0	198.00	242.00	1	5	5	344.0	1.7
P6KE220A	P6KE220CA	185.0	209.00	231.00	1	5	5	328.0	1.8
P6KE250	P6KE250C	202.0	225.00	275.00	1	5	5	360.0	1.7
P6KE250A	P6KE250CA	214.0	237.00	263.00	1	5	5	344.0	1.7
P6KE300	P6KE300C	243.0	270.00	330.00	1	5	5	430.0	1.4
P6KE300A	P6KE300CA	256.0	285.00	315.00	1	5	5	414.0	1.4
P6KE350	P6KE350C	284.0	315.00	385.00	1	5	5	504.0	1.2
P6KE350A	P6KE350CA	300.0	333.00	368.00	1	5	5	482.0	1.2
P6KE400	P6KE400C	324.0	360.00	440.00	1	5	5	574.0	1.0
P6KE400A	P6KE400CA	342.0	380.00	420.00	1	5	5	548.0	1.1
P6KE440	P6KE440C	356.0	396.00	484.00	1	5	5	631.0	1.0
P6KE440A	P6KE440CA	376.0	418.00	462.00	1	5	5	602.0	1.0
P6KE480	P6KE480C	389.0	432.00	528.00	1	5	5	686.0	0.9
P6KE480A	P6KE480CA	408.0	456.00	504.00	1	5	5	658.0	0.9
P6KE510	P6KE510C	413.0	459.00	561.00	1	5	5	729.0	0.8
P6KE510A	P6KE510CA	434.0	485.00	535.00	1	5	5	698.0	0.9
P6KE540	P6KE540C	437.0	486.00	594.00	1	5	5	772.0	0.8
P6KE540A	P6KE540CA	459.0	513.00	567.00	1	5	5	740.0	0.8

Note:

1. For parts 'without A' denotes 10% tolerance device.
2. Suffix 'A' denotes 5% tolerance device.
3. Add suffix 'C' after part number to specify Bi-directional devices.

DEVICE CHARACTERISTICS

P6KE Series

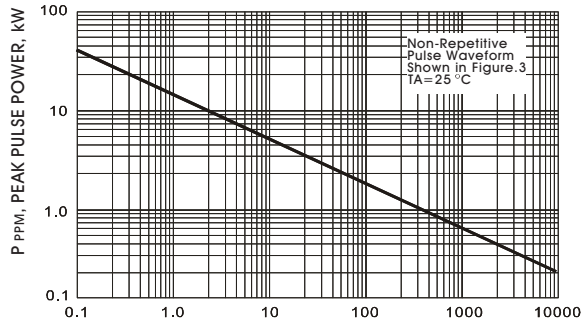


FIGURE 1-PEAK PULSE POWER RATING VERSUS PULSE TIME CURVE

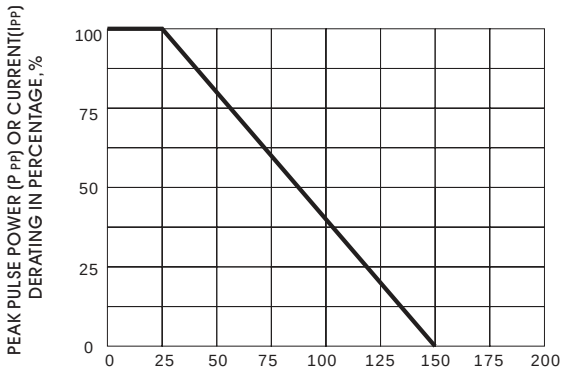


FIGURE2-PULSE DERATING CURVE

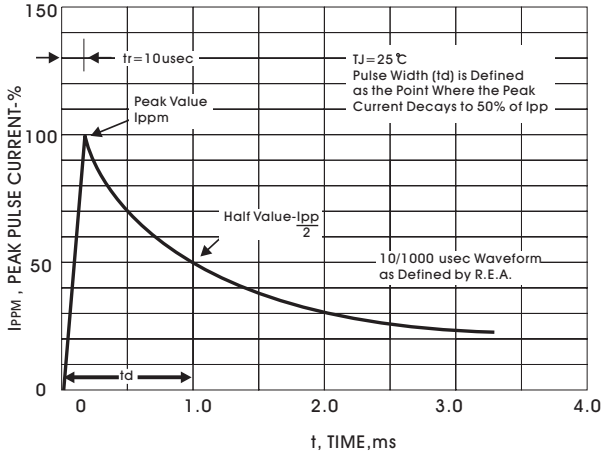


FIGURE 3-PULSE WAVEFORM

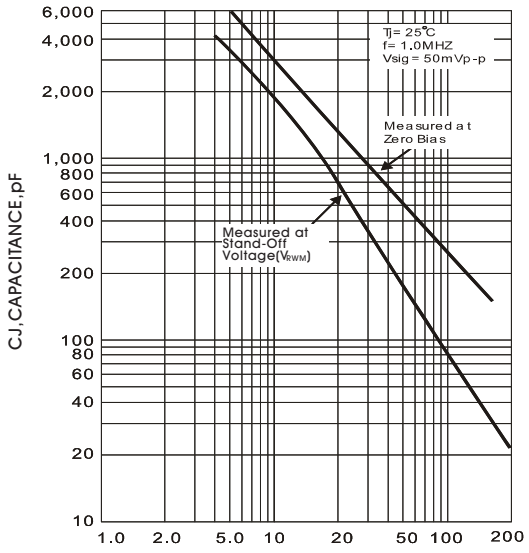


FIG.4-TYPICAL JUNCTION CAPACITANCE UNIDIRECTIONAL

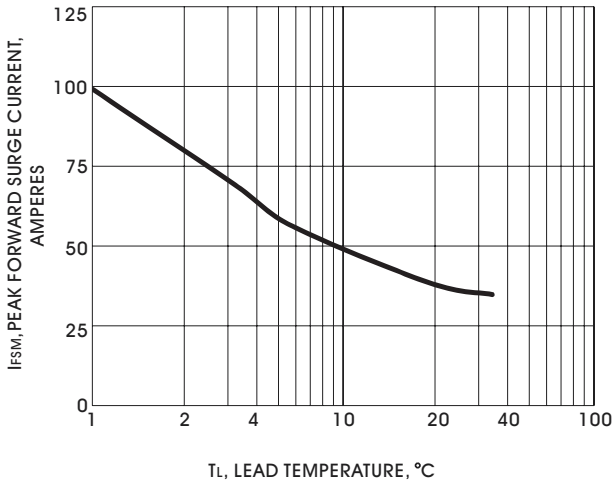


Fig.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT