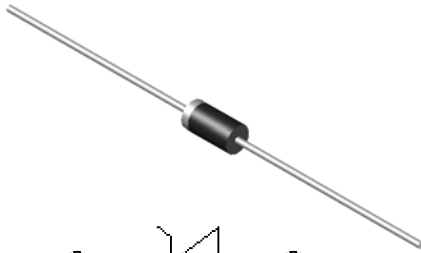
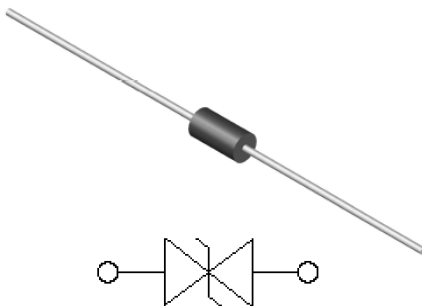


## Transient Voltage Suppressor Diodes

Uni-directional



Bi-directional



### Features

- Excellent clamping capability
- Low dynamic impedance
- Solder dip 275 °C max. 7 s, per JESD 22-B106

### Mechanical Data

- **Package:** DO-204AC(DO-15)  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Color band denotes cathode end

### ■Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Max
Peak power dissipation, with a 10/1000us waveform <sup>(1)</sup>	$P_{PPM}$	W	600
Peak pulse current, with a 10/1000us waveform <sup>(1)</sup>	$I_{PPM}$	A	See Next Table
Power dissipation, on infinite heat sink at TL=75°C	$P_D$	W	5
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only <sup>(2)</sup>	$I_{FSM}$	A	100
Operating junction and storage temperature range	$T_J, T_{STG}$	°C	-55 to +150

### ■Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Maximum instantaneous forward voltage at 25A for unidirectional only <sup>(3)</sup>	$V_{FM}$	V	3.5/5.0

### ■Thermal Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Conditions	VALUE
Thermal Resistance(Typical)	$R_{\theta J-A}$	°C/W	Junction to ambient	75
	$R_{\theta J-L}$	°C/W	Junction to lead	20

Notes:

- (1) Non-repetitive current pulse, per Fig. 3 and derated above  $T_A = 25^\circ\text{C}$  per Fig.2.
- (2) Measured on 8.3ms single half sine-wave or equivalent square wave,duty cycle=4 pulses per minute maximum.
- (3)  $V_F=3.5\text{V}$  Max for devices of  $V_{BR}\leq 220\text{V}$ , and  $V_F=5.0\text{V}$  Max for devices of  $V_{BR}> 220\text{V}$ .



# P6KE SERIES

## ■Ordering Information (Example)

PREFERED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
P6KE SERIES	D1	Approximate 0.38	3000	3000	30000	Tape
P6KE SERIES	C1	Approximate 0.38	500	500	25000	Bulk

## ■Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

Part Number (Uni)	Part Number (Bi)	Breakdown Voltage V <sub>BR</sub> @I <sub>T</sub>			Maximum Reverse Leakage I <sub>R</sub> @ V <sub>WM</sub> (μA)	Working Peak Reverse Voltage V <sub>RWM</sub> (V)	Maximum Reverse Surge Current I <sub>PP</sub> (A)	Maximum Clamping Voltage V <sub>c</sub> @ I <sub>PP</sub> (V)
		Min (V)	Max (V)	I <sub>T</sub> (mA)				
P6KE6.8A	P6KE6.8CA	6.45	7.14	10	1000	5.8	57.1	10.5
P6KE7.5A	P6KE7.5CA	7.13	7.88	10	500	6.4	53.1	11.3
P6KE8.2A	P6KE8.2CA	7.79	8.61	10	200	7.02	49.6	12.1
P6KE9.1A	P6KE9.1CA	8.65	9.55	1	50	7.78	44.8	13.4
P6KE10A	P6KE10CA	9.5	10.5	1	10	8.55	41.4	14.5
P6KE11A	P6KE11CA	10.5	11.6	1	5	9.4	38.5	15.6
P6KE12A	P6KE12CA	11.4	12.6	1	5	10.2	35.9	16.7
P6KE13A	P6KE13CA	12.4	13.7	1	5	11.1	33	18.2
P6KE15A	P6KE15CA	14.3	15.8	1	1	12.8	28.3	21.2
P6KE16A	P6KE16CA	15.2	16.8	1	1	13.6	26.7	22.5
P6KE18A	P6KE18CA	17.1	18.9	1	1	15.3	23.8	25.2
P6KE20A	P6KE20CA	19	21	1	1	17.1	21.7	27.7
P6KE22A	P6KE22CA	20.9	23.1	1	1	18.8	19.6	30.6
P6KE24A	P6KE24CA	22.8	25.2	1	1	20.5	18.1	33.2
P6KE27A	P6KE27CA	25.7	28.4	1	1	23.1	16	37.5
P6KE30A	P6KE30CA	28.5	31.5	1	1	25.6	14.5	41.4
P6KE33A	P6KE33CA	31.4	34.7	1	1	28.2	13.1	45.7
P6KE36A	P6KE36CA	34.2	37.8	1	1	30.8	12	49.9
P6KE39A	P6KE39CA	37.1	41	1	1	33.3	11.1	53.9
P6KE43A	P6KE43CA	40.9	45.2	1	1	36.8	10.1	59.3
P6KE47A	P6KE47CA	44.7	49.4	1	1	40.2	9.3	64.8
P6KE51A	P6KE51CA	48.5	53.6	1	1	43.6	8.6	70.1
P6KE56A	P6KE56CA	53.2	58.8	1	1	47.8	7.8	77
P6KE62A	P6KE62CA	58.9	65.1	1	1	53	7.1	85
P6KE68A	P6KE68CA	64.6	71.4	1	1	58.1	6.5	92
P6KE75A	P6KE75CA	71.3	78.8	1	1	64.1	5.8	103
P6KE82A	P6KE82CA	77.9	86.1	1	1	70.1	5.3	113
P6KE91A	P6KE91CA	86.5	95.5	1	1	77.8	4.8	125
P6KE100A	P6KE100CA	95	105	1	1	85.5	4.4	137
P6KE110A	P6KE110CA	105	116	1	1	94	3.9	152
P6KE120A	P6KE120CA	114	126	1	1	102	3.6	165
P6KE130A	P6KE130CA	124	137	1	1	111	3.4	179
P6KE150A	P6KE150CA	143	158	1	1	128	2.9	207
P6KE160A	P6KE160CA	152	168	1	1	136	2.7	219
P6KE170A	P6KE170CA	162	179	1	1	145	2.6	234



# P6KE SERIES

## ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

Part Number (Uni)	Part Number (Bi)	Breakdown Voltage V <sub>BR</sub> @I <sub>T</sub>			Maximum Reverse Leakage I <sub>R</sub> @ V <sub>WM</sub> (μA)	Working Peak Reverse Voltage V <sub>RWM</sub> (V)	Maximum Reverse Surge Current I <sub>PP</sub> (A)	Maximum Clamping Voltage V <sub>c</sub> @ I <sub>PP</sub> (V)
		Min (V)	Max (V)	I <sub>T</sub> (mA)				
P6KE180A	P6KE180CA	171	189	1	1	154	2.4	246
P6KE200A	P6KE200CA	190	210	1	1	171	2.2	274
P6KE220A	P6KE220CA	209	231	1	1	185	1.8	328
P6KE250A	P6KE250CA	237	263	1	1	214	1.7	344
P6KE300A	P6KE300CA	285	315	1	1	256	1.4	414
P6KE350A	P6KE350CA	333	368	1	1	300	1.2	482
P6KE400A	P6KE400CA	380	420	1	1	342	1.1	548
P6KE440A	P6KE440CA	418	462	1	1	376	1	602
P6KE500A	P6KE500CA	475	525	1	1	427.5	0.87	690
P6KE510A	P6KE510CA	485	510	1	1	434	0.86	698
P6KE520A	P6KE520CA	494	546	1	1	444.6	0.84	714
P6KE540A	P6KE540CA	513	567	1	1	459	0.81	741
P6KE550A	P6KE550CA	522.5	577	1	1	470	0.79	759
P6KE600A	P6KE600CA	570	630	1	1	513	0.72	833

Note:

For bi-directional types having V<sub>WM</sub> of 10 V and less, the I<sub>R</sub> limit is doubled

## ■ Characteristics (Typical)

FIG1: Peak Pulse Power Rating Curve

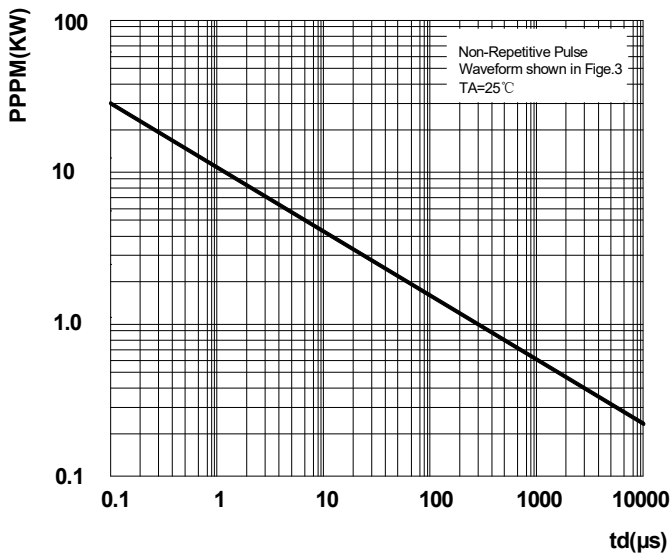
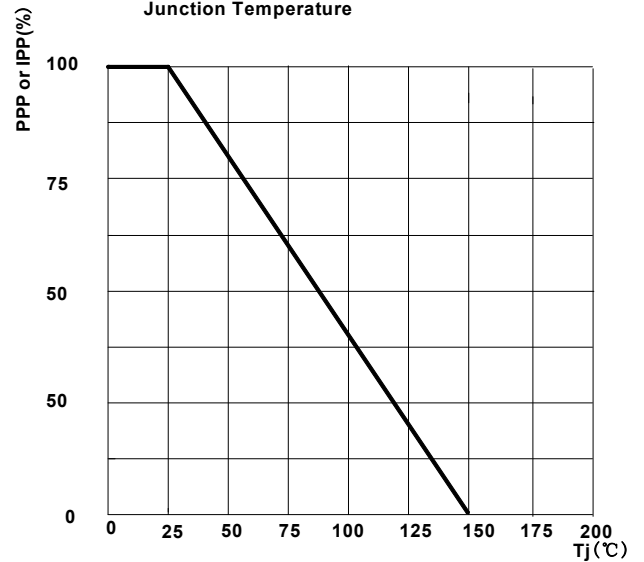
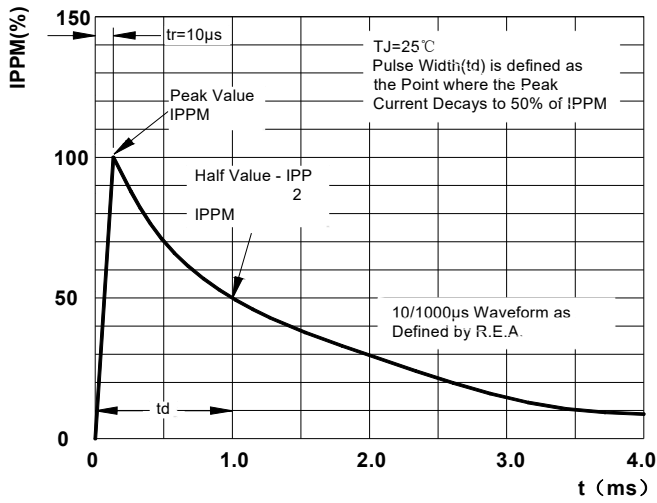


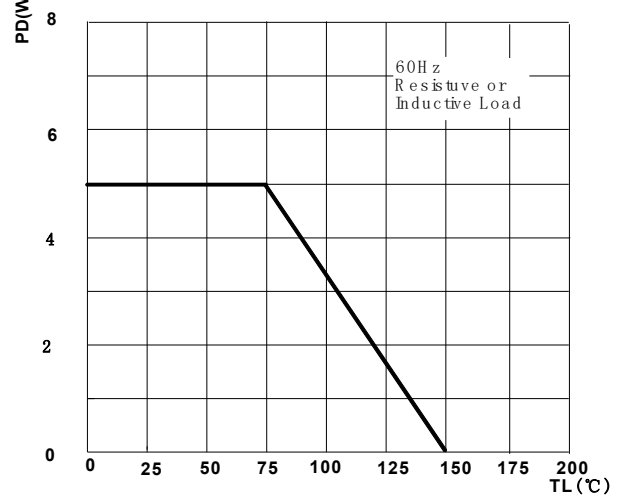
FIG2: Pulse Power or Current vs Initial Junction Temperature



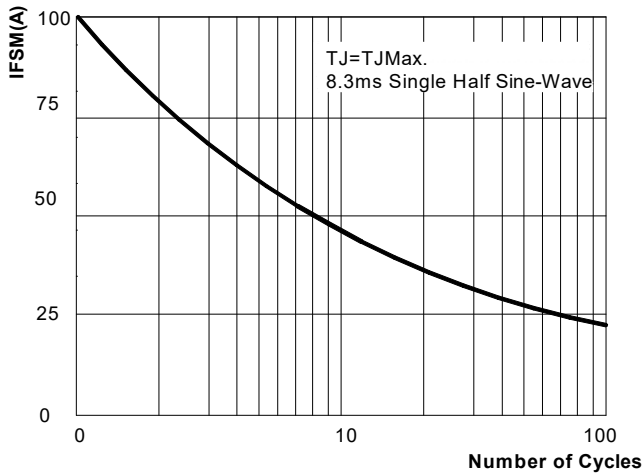
**FIG3: Pulse Waveform**



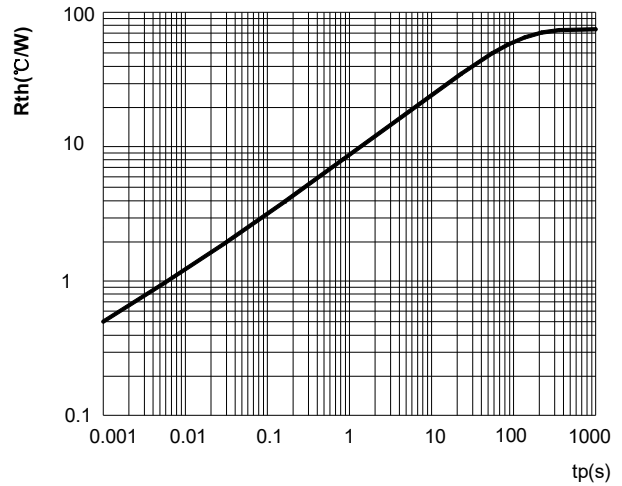
**FIG4: Power Derating Curve**



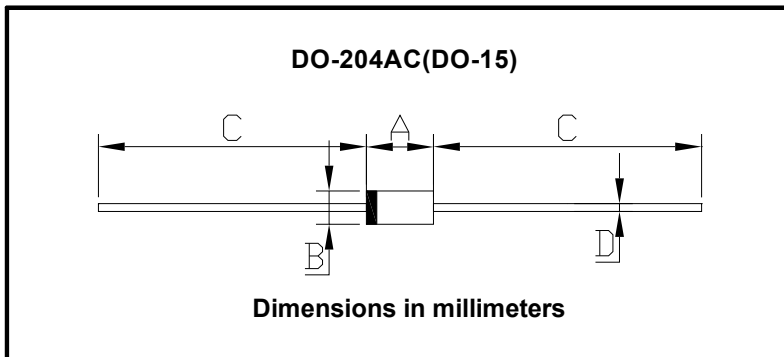
**FIG5: Maximum Non-Repetitive Surge Current**



**FIG6: Typical Transient Thermal Impedance**



## ■ Outline Dimensions



DO-204AC(DO-15)		
Dim	Min	Max
A	5.80	7.60
B	2.60	3.60
C	25.4	/
D	0.70	0.90



## P6KE SERIES

---

### Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.