

Unidirectional and Bidirectional Transient Voltage Suppressors
单向和双向表面贴装瞬态抑制二极管

Reverse Voltage 6.8 - 400 Volts
反向电压 6.8-400V
Power Dissipation - 400 Watts
功率损耗 400W

Features 特征

- low leakage 漏电流低
- Uni and bidirectional unit 单向和双向产品
- Excellent clamping capability 极好的钳位能力
- Fast response time 响应时间快

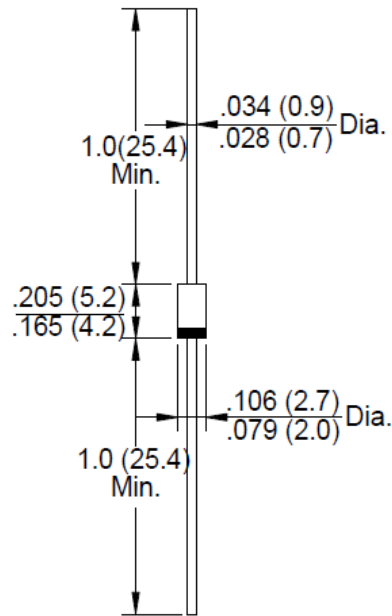
Mechanical Data 外观信息

- Case: DO-41 molded plastic 封装: DO-41塑料
- Polarity: Color band denotes cathode 极性: 带色环的为阴极

Applications 应用

- Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET.
在开关、照明等电子行业用于保护ICs, MOSFET管, 由于感性负载引起的电压瞬间变化。

DO-41



RoHS COMPLIANT



Package Outline Dimensions in Inches (Millimeters)

封装外观尺寸单位英寸(毫米)

Maximum Ratings and Electrical Characteristics 最大额定值及电气特性

Rating at 25°C ambient temperature unless otherwise specified. 环境温度25°C, 除非特别说明。
Single phase, half wave, 60Hz, resistive or inductive load. 单相半波, 60Hz, 阻性或感性负载。
For capacitive load, derate current by 20%. 对于电容性负载, 降低20%的额定电流。

Characteristics 特性	Symbol 符号	Value 值	Unit 单位
Peak Power Dissipation at TA=25°C TP=1ms (Note 1) 峰值功率损耗(备注1)	P _{PK}	400 (Min)	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave, Superimposed on Rated Load (JEDEC Method) 8.3ms单一正弦半波叠加在额定负载上的浪涌能力(JEDEC方法)	I _{FSM}	40	A
Steady State Power Dissipation at TL=75°C Lead Lengths 0.375"(9.5mm), See Fig. 6 引线长度是75°C下的稳态功耗	P _{M(AV)}	1	W
Maximum Instantaneous Forward Voltage at 25A for Unidirectional Devices Only (Note 2) 仅对于单向在25A电流下的最大瞬态正向电压(备注2)	V _F	See Note 3	°C/W
Operating Junction Temperature Range 结温工作范围	T _J	-55 to + 150	°C
Storage Temperature Range 储存温度范围	T _{STG}	-55 to + 150	°C

Notes: 1. Non-repetitive current pulse, per Fig. 3 and derated above TA=25°C per Fig. 1. 不重复的浪涌电流, 如图3 25°C的降额曲线, 如图1
2. 8.3ms single half-wave duty cycle=4 pulses per minutes maximum (uni-directional units only).
8.3ms单一正弦半波的工作周期=每分钟最大4个脉冲(仅针对单向部分)
3. V_F=3.5V on P4KE6.8 thru P4KE200A devices and V_F=5.0V on P4KE220A thru P4KE400A devices.

Fig. 1 - Maximum Non-Repetitive Peak Forward Surge Current
图1. 脉冲降额曲线

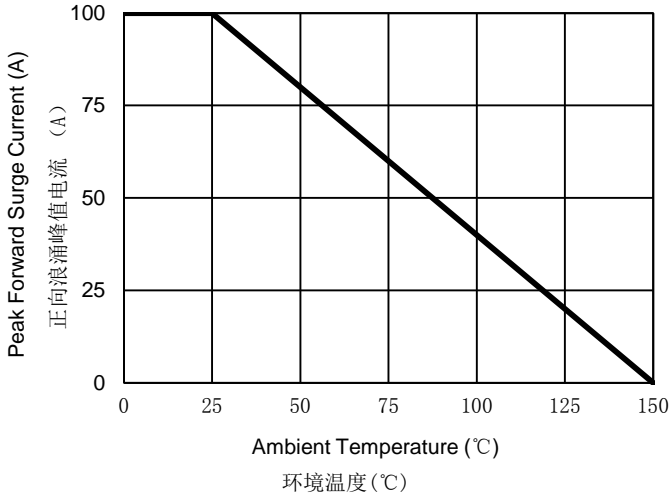


Fig. 2 - Maximum Non-Repetitive Surge Current
图2 最大不重复正向浪涌曲线

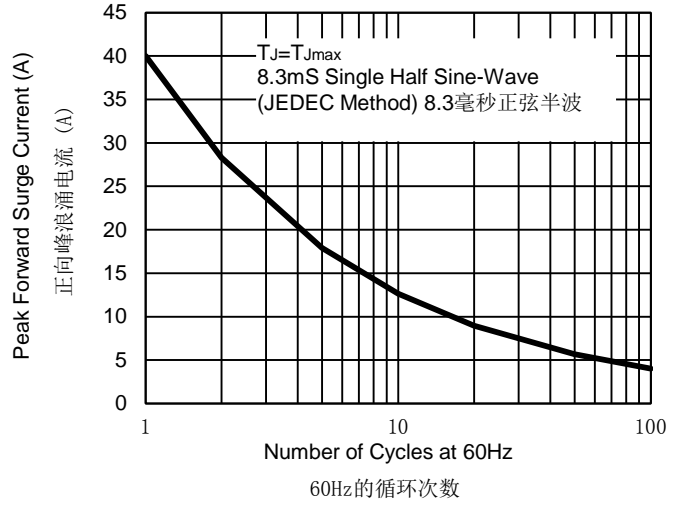


Fig. 3 - Pulse Waveform
图2 脉冲波形

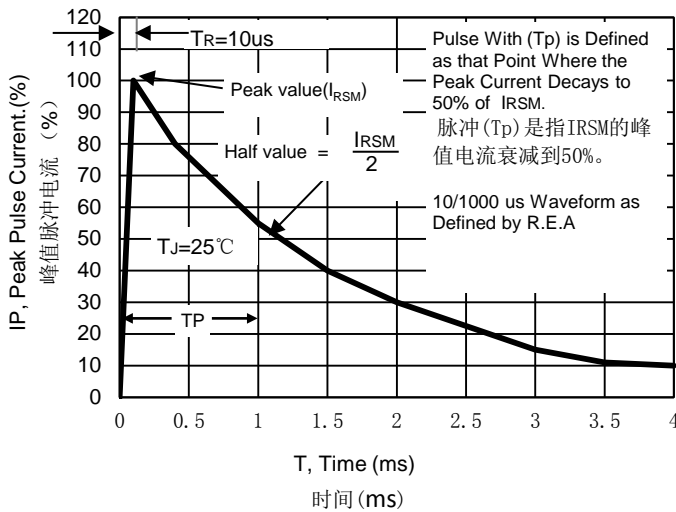


Fig.4- Typical Junction Capacitance
图4 典型的结电容

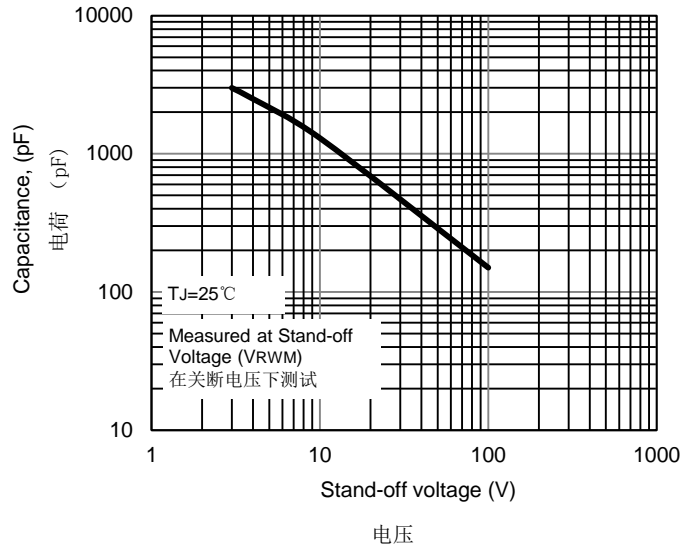


Fig. 5 - Pulse Rating Curve
图5 脉冲额定曲线

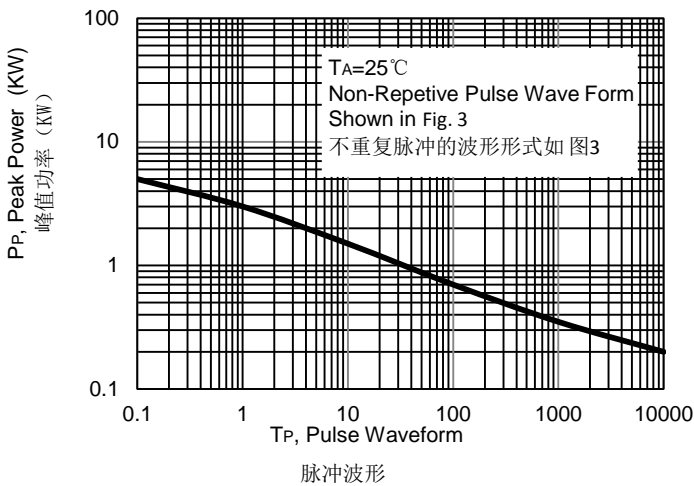
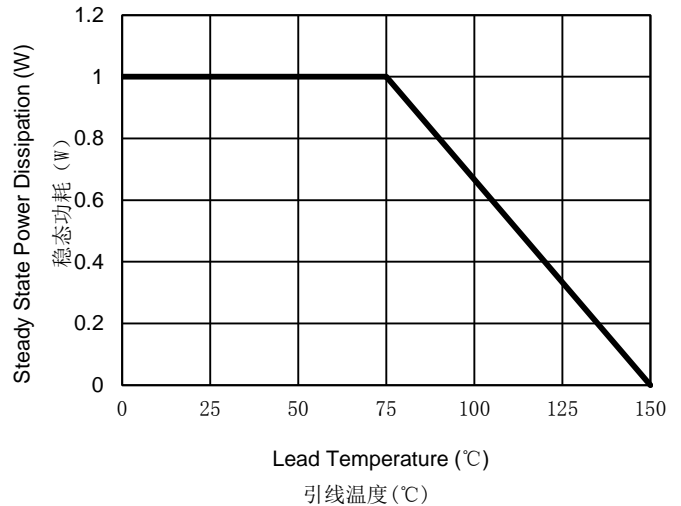


Fig. 6 - Steady State Power Derating Curve
图6. 稳态功率降额曲线



The curve above is for reference only. 曲线图仅供参考。



P4KE SERIES

Device Uni-directional 单向	Device Bi-directional 双向	Reverse Stand off Voltage 反向关断电压	Breakdown Voltage at IT2 V(BR) (V) 在IT2条件下的击穿电压			Maximum Reverse Leakage at VR 在VR下最大的反向漏电流	Maximum Clamping Voltage at IPPM 在IPPM条件下最大的钳位电流	Maximum Peak Pulse Surge Current ⁽³⁾ 最大的峰值脉冲浪涌电流	Max. Voltage Temp. 电压温度变化的最大值
			Min(V)	Max(V)	It(mA)				
(UNI)	(BI)	VR(V)	Min(V)	Max(V)	It(mA)	IR(μA)	Vc(V)	Ipp(A)	mV/°C
P4KE6.8A	P4KE6.8CA	5.80	6.45	7.14	10	1000	10.5	40.00	0.057
P4KE7.5A	P4KE7.5CA	6.40	7.13	7.88	10	500	11.3	37.00	0.061
P4KE8.2A	P4KE8.2CA	7.02	7.79	8.61	10	200	12.1	35.00	0.065
P4KE9.1A	P4KE9.1CA	7.78	8.65	9.55	1	50	13.4	31.00	0.068
P4KE10A	P4KE10CA	8.55	9.50	10.50	1	10	14.5	29.00	0.073
P4KE11A	P4KE11CA	9.40	10.50	11.60	1	5	15.6	27.00	0.076
P4KE12A	P4KE12CA	10.20	11.40	12.60	1	5	16.7	25.00	0.078
P4KE13A	P4KE13CA	11.10	12.40	13.70	1	5	18.2	23.00	0.081
P4KE15A	P4KE15CA	12.80	14.30	15.80	1	5	21.2	20.00	0.084
P4KE16A	P4KE16CA	13.60	15.20	16.80	1	5	22.5	19.00	0.086
P4KE18A	P4KE18CA	15.30	17.10	18.90	1	5	25.2	17.00	0.088
P4KE20A	P4KE20CA	17.10	19.00	21.00	1	5	27.7	15.00	0.090
P4KE22A	P4KE22CA	18.80	20.90	23.10	1	5	30.6	14.00	0.092
P4KE24A	P4KE24CA	20.50	22.80	25.20	1	5	33.2	13.00	0.094
P4KE27A	P4KE27CA	23.10	25.70	28.40	1	5	37.5	11.20	0.096
P4KE30A	P4KE30CA	25.60	28.50	31.50	1	5	41.4	10.00	0.097
P4KE33A	P4KE33CA	28.20	31.40	34.70	1	5	45.7	9.00	0.098
P4KE36A	P4KE36CA	30.80	34.20	37.80	1	5	49.9	8.40	0.099
P4KE39A	P4KE39CA	33.30	37.10	41.00	1	5	53.9	7.80	0.100
P4KE43A	P4KE43CA	36.80	40.90	45.20	1	5	59.3	7.10	0.101
P4KE47A	P4KE47CA	40.20	44.70	49.40	1	5	64.8	6.50	0.101
P4KE51A	P4KE51CA	43.60	48.50	53.60	1	5	70.1	6.00	0.102
P4KE56A	P4KE56CA	47.80	53.20	58.80	1	5	77.0	5.50	0.103
P4KE62A	P4KE62CA	53.0	58.9	65.1	1	5	85.0	5.00	0.104
P4KE68A	P4KE68CA	58.1	64.6	71.4	1	5	92.0	4.60	0.104
P4KE75A	P4KE75CA	64.7	71.3	78.8	1	5	103.0	4.10	0.105
P4KE82A	P4KE82CA	70.1	77.9	86.1	1	5	112.0	3.70	0.105
P4KE91A	P4KE91CA	77.8	86.5	95.5	1	5	125.0	3.40	0.106
P4KE100A	P4KE100CA	85.5	95.0	105.0	1	5	137.0	3.10	0.106
P4KE110A	P4KE110CA	94.0	105.0	116.0	1	5	152.0	2.80	0.107
P4KE120A	P4KE120CA	102.0	114.0	126.0	1	5	165.0	2.50	0.107
P4KE130A	P4KE130CA	111.0	124.0	137.0	1	5	179.0	2.30	0.107
P4KE150A	P4KE150CA	128.0	143.0	158.0	1	5	207.0	2.00	0.108
P4KE160A	P4KE160CA	136.0	152.0	168.0	1	5	219.0	2.00	0.108
P4KE170A	P4KE170CA	145.0	162.0	179.0	1	5	234.0	1.80	0.108
P4KE180A	P4KE180CA	154.0	171.0	189.0	1	5	246.0	1.70	0.108
P4KE200A	P4KE200CA	171.0	190.0	210.0	1	5	274.0	1.53	0.108
P4KE220A	P4KE220CA	185.0	209.0	231.0	1	5	328.0	1.22	0.108
P4KE250A	P4KE250CA	214.0	237.0	263.0	1	5	344.4	1.16	0.110
P4KE300A	P4KE300CA	256.0	285.0	315.0	1	5	414.0	0.97	0.110
P4KE350A	P4KE350CA	300.0	332.0	368.0	1	5	482.0	0.83	0.110
P4KE400A	P4KE400CA	342.0	380.0	420.0	1	5	548.0	0.73	0.110

Notes: 1. Suffix 'C' denotes bidirectional device . Suffix 'A' denotes 5% tolerance device 后缀带C的为双向。后缀带A的为电压容忍范围5%。

2. For bidirectional devices having VR of 10volts and under ,the IR limit is doubled .



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