

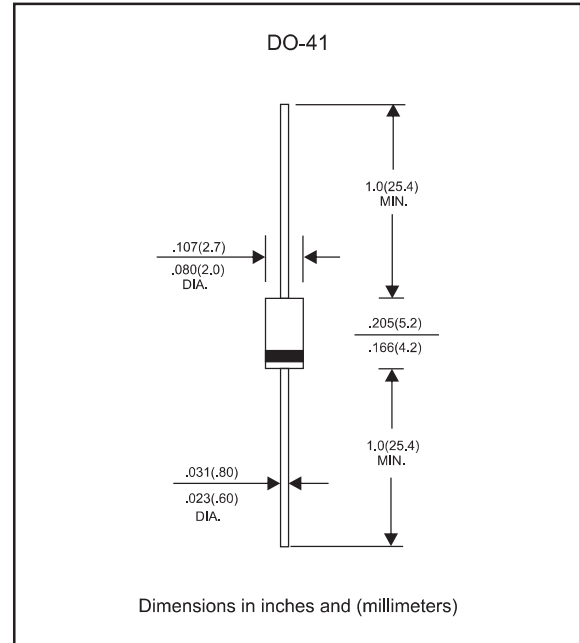
Features

- Axial lead type devices for through hole design.
- 400W peak pulse power capability with a 10/1000us waveform, repetition rate (duty cycle): 0.01%.
- Excellent clamping capability.
- Low incremental surge resistance.
- Fast response time from 0V to VBR, typically less than 1 pS for uni-directional & 5 nS for bi-directional types.
- Ultra high-speed switching.
- Glass passivated chip junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Suffix "-H" indicates Halogen free parts, ex. P4KE6.8A-H

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, DO-41
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position : Any

Package outline



Maximum ratings (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Peak power dissipation	with a 10/1000us waveform, Note 1 & Fig. 1	P_{PPM}			400	W
Peak pulse current	with a 10/1000us waveform	I_{PPM}	See table 1			A
Steady state power dissipation	at $T_L=75^\circ\text{C}$ lead length 0.375" (9.5 mm)	$P_{M(AV)}$			1.0	W
Peak forward surge current	8.3ms single half sine-wave superimposed on rated load (jedec method), note 2	I_{FSM}			40	A
Maximum instantaneous forward voltage	for uni-directional types only, at 25A, see note 3	V_F			3.5/5.0	V
Operating temperature		T_J	-55		+150	$^\circ\text{C}$
Storage temperature		T_{STG}	-65		+175	$^\circ\text{C}$

Note 1. Non-repetitive current pulse, per Fig. 3 and derated above $T_A=25^\circ\text{C}$ per Fig. 2

2. Measured on 8.3 ms 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 $V_{BR}<200\text{V}$, and $V_F=5.0\text{V}$ max. for devices of $V_{BR}>201\text{V}$

Electrical characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)

Table 1

Part No.	Absolute Maximum Rating($T_A = 25^\circ\text{C}$)					Electricity Characteristics($T_A = 25^\circ\text{C}$)		
	V_{RWM}	$V_{BR\ Min}$	$V_{BR\ Max}$	I_T	I_{FSM}	Max. $V_C@I_{PPM}$		Max. $I_R@V_{RWM}$
	Volts	Volts	Volts	mA	(A)@8.3ms	Volts	$I_{PPM}(A)$	
P4KE6.8(C)A	5.80	6.45	7.14	10	40	10.5	40.0	1000
P4KE7.5(C)A	6.40	7.13	7.88	10	40	11.3	37.0	500
P4KE8.2(C)A	7.02	7.79	8.61	10	40	12.1	35.0	200
P4KE9.1(C)A	7.78	8.65	9.55	1.0	40	13.4	31.0	50
P4KE10(C)A	8.55	9.50	10.5	1.0	40	14.5	29.0	10
P4KE11(C)A	9.40	10.5	11.6	1.0	40	15.6	27.0	5
P4KE12(C)A	10.2	11.4	12.6	1.0	40	16.7	25.0	5
P4KE13(C)A	11.1	12.4	13.7	1.0	40	18.2	23.0	5
P4KE15(C)A	12.8	14.3	15.8	1.0	40	21.2	20.0	5
P4KE16(C)A	13.6	15.2	16.8	1.0	40	22.5	19.0	5
P4KE18(C)A	15.3	17.1	18.9	1.0	40	25.5	17.0	5
P4KE20(C)A	17.1	19.0	21.0	1.0	40	27.7	15.0	5
P4KE22(C)A	18.8	20.9	23.1	1.0	40	30.6	14.0	5
P4KE24(C)A	20.5	22.8	25.2	1.0	40	33.2	13.0	5
P4KE27(C)A	23.1	25.7	28.4	1.0	40	37.5	11.2	5
P4KE30(C)A	25.6	28.5	31.5	1.0	40	41.4	10.0	5
P4KE33(C)A	28.2	31.4	34.7	1.0	40	45.7	9.0	5
P4KE36(C)A	30.8	34.2	37.8	1.0	40	49.9	8.4	5
P4KE39(C)A	33.3	37.1	41.0	1.0	40	53.9	7.8	5
P4KE43(C)A	36.8	40.9	45.2	1.0	40	59.3	7.1	5
P4KE47(C)A	40.2	44.7	49.4	1.0	40	64.8	6.5	5
P4KE51(C)A	43.6	48.5	53.6	1.0	40	70.1	6.0	5
P4KE56(C)A	47.8	53.2	58.8	1.0	40	77.0	5.5	5
P4KE62(C)A	53.0	58.9	65.1	1.0	40	85.0	5.0	5
P4KE68(C)A	58.1	64.6	71.4	1.0	40	92.0	4.6	5
P4KE75(C)A	64.1	71.3	78.8	1.0	40	103.0	4.1	5
P4KE82(C)A	70.1	77.9	86.1	1.0	40	113.0	3.7	5
P4KE91(C)A	77.8	86.5	95.5	1.0	40	125.0	3.4	5
P4KE100(C)A	85.5	95.0	105.0	1.0	40	137.0	3.1	5
P4KE110(C)A	94.0	105.0	116.0	1.0	40	152.0	2.8	5
P4KE120(C)A	102.0	114.0	126.0	1.0	40	165.0	2.5	5
P4KE130(C)A	111.0	124.0	137.0	1.0	40	179.0	2.3	5
P4KE150(C)A	128.0	143.0	158.0	1.0	40	207.0	2.0	5
P4KE160(C)A	136.0	152.0	168.0	1.0	40	219.0	1.9	5
P4KE170(C)A	145.0	162.0	179.0	1.0	40	234.0	1.8	5
P4KE180(C)A	154.0	171.0	189.0	1.0	40	246.0	1.7	5
P4KE200(C)A	171.0	190.0	210.0	1.0	40	274.0	1.53	5
P4KE220(C)A	185.0	209.0	231.0	1.0	40	328.0	1.22	5
P4KE250(C)A	214.0	237.0	263.0	1.0	40	344.0	1.16	5
P4KE300(C)A	256.0	285.0	315.0	1.0	40	414.0	0.97	5
P4KE350(C)A	300.0	332.0	368.0	1.0	40	482.0	0.83	5
P4KE400(C)A	342.0	380.0	420.0	1.0	40	548.0	0.73	5
P4KE440(C)A	376.0	418.0	462.0	1.0	40	600.0	0.67	5

- Note 1. V_{BR} measured after I_T applied for 300us, I_T =square wave pulse or equivalent
 2. Surge current waveform per Fig. 3 and derated per Fig. 2
 3. For bi-directional types having V_{RWM} of 10 volts and less, the I_R limit is doubled
 4. Suffix 'C' denotes bi-directional devices. Suffix 'A' denotes 5% tolerance devices, no suffix denotes 10% tolerance devices.
 5. All terms and symbols are consistent with ANS/IEEE C62.35



Rating and characteristic curves (P4KE SERIES)

Fig.1 - PEAK PULSE POWER RATING CURVE

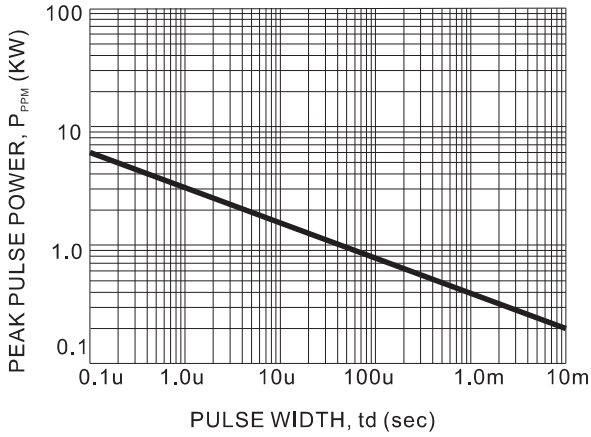


Fig.2 - PULSE DERATING CURVE

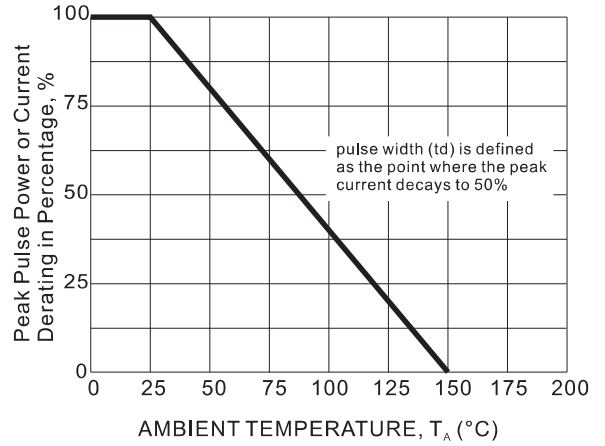


Fig.3 - Pulse Waveform

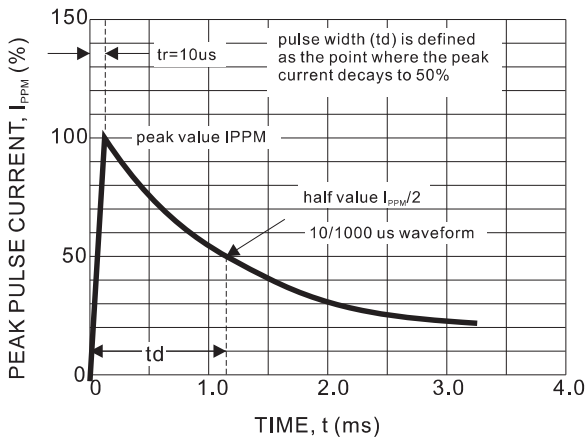


Fig.4 - Typical Junction Capacitance

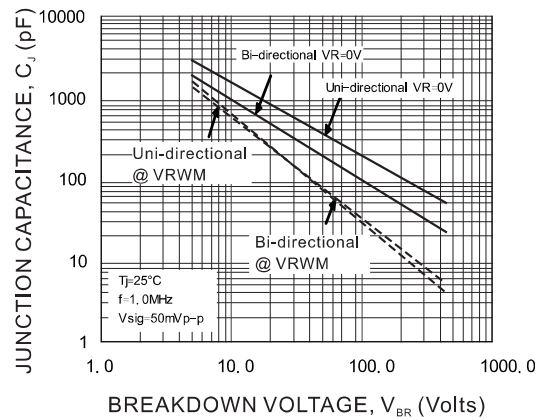


Fig.5 - STEADY STATE POWER DERATING CURVE

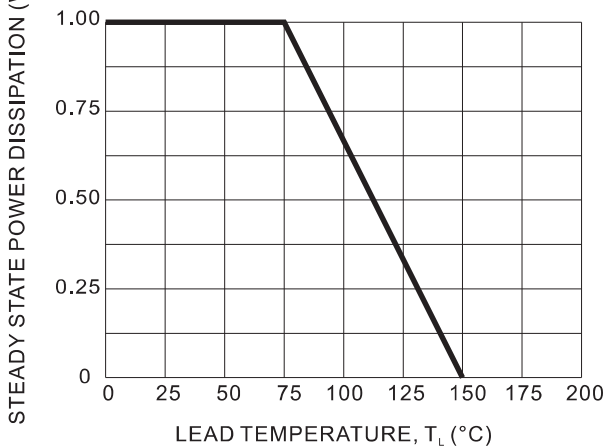
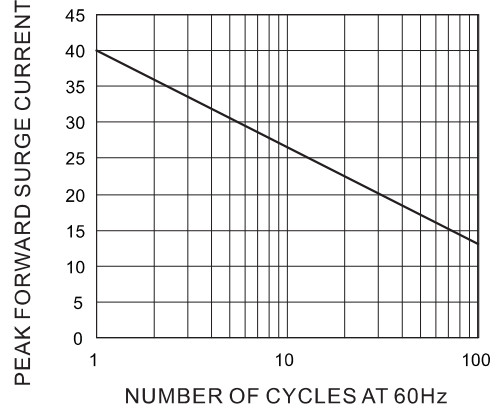




Fig.6 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



Pinning information

Pin	Simplified outline	Symbol
Uni-Directional Pin1 cathode Pin2 anode		
Bi-Directional	