FAIRCHILD
SEMICONDUCTOR TM

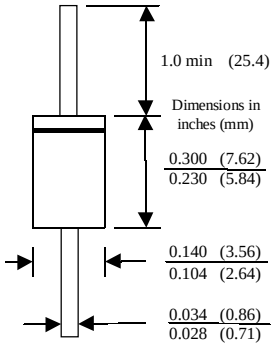
P6KE6.8(C)A - P6KE440(C)A

Features

- Glass passivated junction.
- 600W Peak Pulse Power capability at 1.0 ms.
- Excellent clamping capability.
- Low incremental surge resistance.
- Fast response time; typically less than 1.0 ps from 0 volts to BV for unidirectional and 5.0 ns for bidirectional.
- Typical I_R less than 1.0 μA above 10V.



DO-15
COLOR BAND DENOTES CATHODE
EXCEPT BIPOLAR



DEVICES FOR BIPOLAR APPLICATIONS
- Bidirectional types use CA suffix.
- Electrical Characteristics apply in both directions.

600 Watt Transient Voltage Suppressors

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
P_{PPM}	Peak Pulse Power Dissipation at T_A=25°C, T_P=1ms	minimum 600	W
I_{PPM}	Peak Pulse Current	see table	A
P_D	Steady State Power Dissipation .375 " lead length @ T_A = 75°C	5.0	W
$i_{f(surge)}$	Peak Forward Surge Current superimposed on rated load (JEDEC method) (Note 1)	100	A
T_{stg}	Storage Temperature Range	-65 to +175	°C
T_J	Operating Junction Temperature	-65 to +175	°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Note 1: Measured on 8.3 ms single half-sine wave; Duty cycle = 4 pulses per minute maximum.

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Transient Voltage Supressors
(continued)

Electrical Characteristics

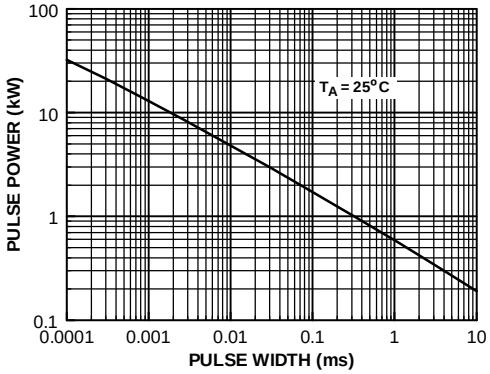
T_A = 25°C unless otherwise noted

Uni-directional Bi-directional (C) Device	Reverse Stand-off Voltage V_{RWM} (V)	Breakdown Voltage V_{BR} (V) min	max	Test Current I_T(mA)	Max Clamping Voltage @IPPM V_C(V)	Max Peak Pulse Surge Current I_{PPM} (A)	Max Reverse Leakage V_{RWM} I_R (uA)*
P6KE6.8(C)A	5.80	6.45	7.14	10	10.5	57.1	1000
P6KE7.5(C)A	6.40	7.13	7.88	1	11.3	53.1	500
P6KE8.2(C)A	7.02	7.79	8.61	1	12.1	50.0	200
P6KE9.1(C)A	7.78	8.65	9.55	1	13.4	45.0	50
P6KE10(C)A	8.55	9.50	10.5	1	14.5	41.0	10
P6KE11(C)A	9.4	10.5	11.6	1	15.6	38.0	5
P6KE12(C)A	10.2	11.4	12.6	1	16.7	36.0	5
P6KE13(C)A	11.1	12.4	13.7	1	18.2	33.0	5
P6KE15(C)A	12.8	14.3	15.8	1	21.2	28.0	5
P6KE16(C)A	13.6	15.2	16.8	1	22.5	27.0	5
P6KE18(C)A	15.3	17.1	18.9	1	25.2	24.0	5
P6KE20(C)A	17.1	19.0	21.0	1	27.7	22.0	5
P6KE22(C)A	18.8	20.9	23.1	1	30.6	20.0	5
P6KE24(C)A	20.5	22.8	25.2	1	33.2	18.1	5
P6KE27(C)A	23.1	25.7	28.4	1	37.5	16.0	5
P6KE30(C)A	25.6	28.5	31.5	1	41.4	14.5	5
P6KE33(C)A	28.2	31.4	34.7	1	45.7	13.2	5
P6KE36(C)A	30.8	34.2	37.8	1	49.9	12.0	5
P6KE39(C)A	33.3	37.1	41.0	1	53.9	11.2	5
P6KE43(C)A	36.8	40.9	45.2	1	59.3	10.1	5
P6KE47(C)A	40.2	44.7	49.4	1	64.8	9.3	5
P6KE51(C)A	43.6	48.5	53.6	1	70.1	8.6	5
P6KE56(C)A	47.8	53.2	58.8	1	77.0	7.8	5
P6KE62(C)A	53.0	58.9	65.1	1	85.0	7.1	5
P6KE68(C)A	58.1	64.6	71.4	1	92.0	6.5	5
P6KE75(C)A	64.1	71.3	78.8	1	103.0	5.8	5
P6KE82(C)A	70.1	77.9	86.1	1	113.0	5.3	5
P6KE91(C)A	77.8	86.5	95.5	1	125.0	4.8	5
P6KE100(C)A	85.5	95.0	105.0	1	137.0	4.4	5
P6KE110(C)A	94.0	105.0	116.0	1	152.0	4.0	5
P6KE120(C)A	102.0	114.0	126.0	1	165.0	3.6	5
P6KE130(C)A	111.0	124.0	137.0	1	179.0	3.4	5
P6KE150(C)A	128.0	143.0	158.0	1	207.0	2.9	5
P6KE160(C)A	136.0	152.0	168.0	1	219.0	2.7	5
P6KE170(C)A	145.0	162.0	179.0	1	234.0	2.6	5
P6KE180(C)A	154.0	171.0	189.0	1	246.0	2.4	5
P6KE200(C)A	171.0	190.0	210.0	1	274.0	2.2	5
P6KE220(C)A	185.0	209.0	231.0	1	328.0	1.9	5
P6KE250(C)A	214.0	237.0	263.0	1	344.0	1.8	5
P6KE300(C)A	256.0	285.0	315.0	1	414.0	1.5	5
P6KE350(C)A	300.0	332.0	368.0	1	482.0	1.3	5
P6KE400(C)A	342.0	380.0	420.0	1	548.0	1.1	5
P6KE440(C)A	376.0	418.0	462.0	1	602.0	1.0	5

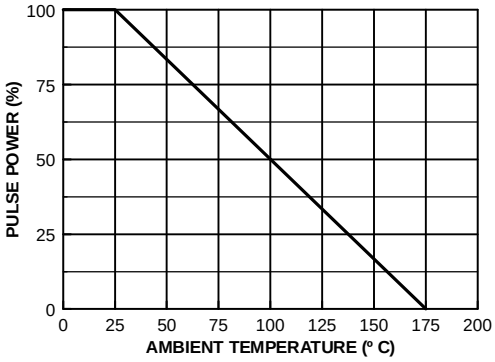
* For bidirectional parts with V_{RWM}<10V, the I_R max limit is doubled.

Typical Characteristics

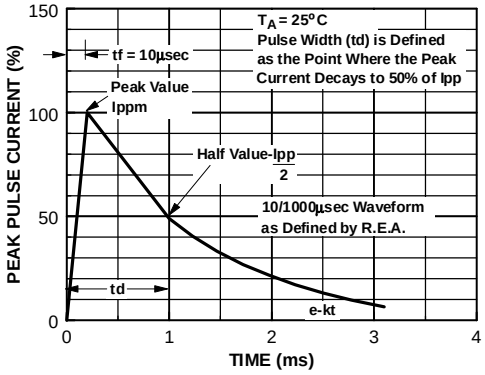
Peak Pulse Power Rating Curve



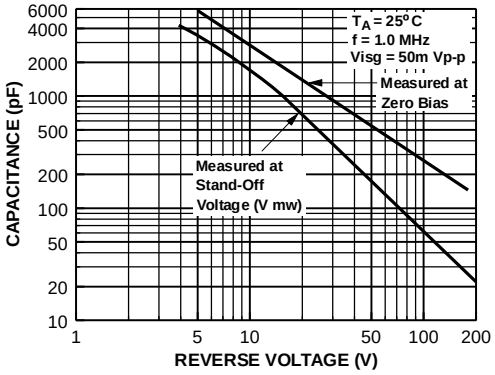
Pulse Derating Curve



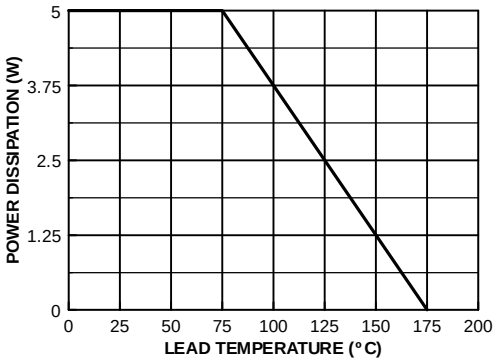
Pulse Waveform



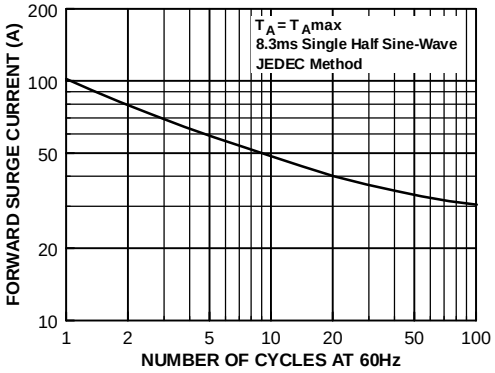
Junction Capacitance - Unidirectional



Steady State Power Derating Curve



Non-Repetitive Surge Current

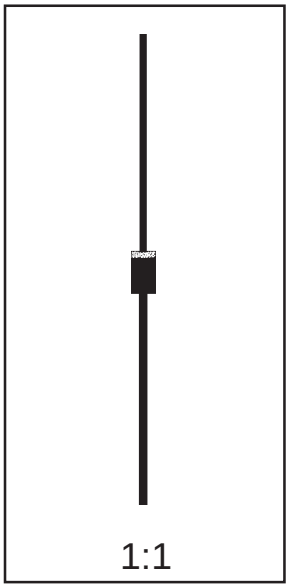


DO-15 Package Dimensions

FAIRCHILD SEMICONDUCTOR™

DO-15 (FS PKG Code P2)

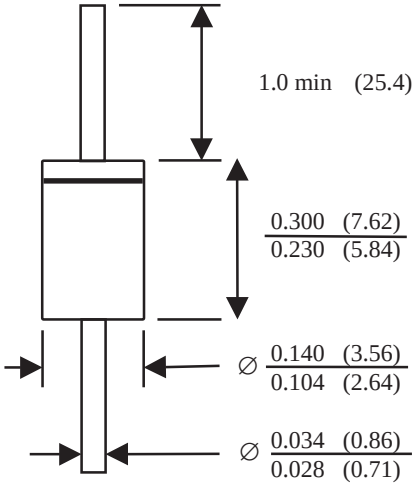




Scale 1:1 on letter size paper

Dimensions shown below are in:
inches [millimeters]

Part Weight per unit (gram): 0.4



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