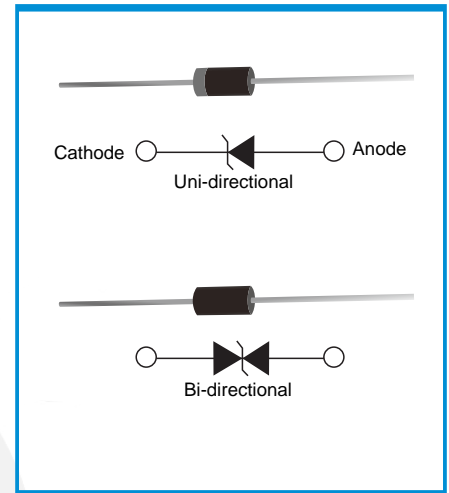


Transient Voltage Suppressors (TVS) Data Sheet

Features

- 600W peak pulse power capability at 10/1000 μ s waveform, repetition rate (duty cycle): 0.01%
- Typical I_R less than 1 μ A above 12V.
- High Temperature soldering guaranteed: 265 $^{\circ}$ C/10 seconds/.375", (9.5mm) lead length, 5lbs (2.3kg) tension
- Plastic package has underwriters laboratory flammability 94V-0
- Meets MSL level 1, per J-STD-020.
- Glass passivated junction
- Low zener impedance
- Excellent clamping capability
- Fast response time

Functional Diagram



Mechanical Data

- Mounting Position: Any
- Weight: 0.42g
- Case: JEDEC DO-15 Moulded plastic
- Terminal: Axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: For uni-directional types the band denotes cathode end, no marking on bi-directional types

Applications

- I/O interface
- Vcc bus
- AC/DC power supply
- Low frequency signal transmission line (RS232, RS485, etc.)

Maximum Ratings and Characteristics

Ratings at 25 $^{\circ}$ C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak pulse power dissipation at 10/1000 μ s waveform (Note1, Fig.1)	P_{PPM}	Minimum 600	Watts
Peak pulse current of at 10/1000 μ s waveform (Note 1, Fig.3)	I_{PPM}	See Table	Amps
Steady state power dissipation at $T_L=75^{\circ}$ C (Fig.5)	$P_{M(AV)}$	5.0	Watts
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load, (JEDEC Method) (Note2, Fig.6)	I_{FSM}	100	Amps
Operating junction and Storage Temperature Range.	T_J, T_{STG}	-55 to +175	$^{\circ}$ C
Typical thermal resistance junction to lead	$R_{\theta JL}$	20	$^{\circ}$ C/W
Typical thermal resistance junction to ambient	$R_{\theta JA}$	75	$^{\circ}$ C/W

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

2. 8.3ms single half sine-wave, or equivalent square wave, duty cycle=4 pulses per minutes maximum.

Electrical Characteristics (T_A=25°C)

Part Number (Uni)	Marking (Uni)	Part Number (Bi)	Marking (Bi)	Reverse Stand off Voltage V _R (Volts)	Breakdown Voltage V _{BR} (Volts)@ I _T		Test Current I _T (mA)	Maximum Clamping Voltage V _C @I _{PP} (V)	Maximum Peak Pulse Current I _{PP} (A)	Maximum Reverse Leakage I _R @V _R (μA)
					MIN	MAX				
LTV1D6.8AJ	P6KE6.8A	LTV1D6.8CJ	P6KE6.8CA	5.80	6.45	7.14	10	10.5	58.1	1000
LTV1D7.5AJ	P6KE7.5A	LTV1D7.5CJ	P6KE7.5CA	6.40	7.13	7.88	10	11.3	54.0	500
LTV1D8.2AJ	P6KE8.2A	LTV1D8.2CJ	P6KE8.2CA	7.02	7.79	8.61	10	12.1	50.4	200
LTV1D9.1AJ	P6KE9.1A	LTV1D9.1CJ	P6KE9.1CA	7.78	8.65	9.55	1	13.4	45.5	50
LTV1D10AJ	P6KE10A	LTV1D10CJ	P6KE10CA	8.55	9.50	10.50	1	14.5	42.1	10
LTV1D11AJ	P6KE11A	LTV1D11CJ	P6KE11CA	9.40	10.50	11.60	1	15.6	39.1	5
LTV1D15AJ	P6KE12A	LTV1D15CJ	P6KE12CA	10.20	11.40	12.60	1	16.7	36.5	5
LTV1D6.8AJ	P6KE13A	LTV1D6.8CJ	P6KE13CA	11.10	12.40	13.70	1	18.2	33.5	1
LTV1D6.8AJ	P6KE15A	LTV1D6.8CJ	P6KE15CA	12.80	14.30	15.80	1	21.2	28.8	1
LTV1D16AJ	P6KE16A	LTV1D16CJ	P6KE16CA	13.60	15.20	16.80	1	22.5	27.1	1
LTV1D18AJ	P6KE18A	LTV1D18CJ	P6KE18CA	15.30	17.10	18.90	1	25.2	24.2	1
LTV1D20AJ	P6KE20A	LTV1D20CJ	P6KE20CA	17.10	19.00	21.00	1	27.7	22.0	1
LTV1D22AJ	P6KE22A	LTV1D22CJ	P6KE22CA	18.80	20.90	23.10	1	30.6	19.9	1
LTV1D24AJ	P6KE24A	LTV1D24CJ	P6KE24CA	20.50	22.80	25.20	1	33.2	18.4	1
LTV1D27AJ	P6KE27A	LTV1D27CJ	P6KE27CA	23.10	25.70	28.40	1	37.5	16.3	1
LTV1D30AJ	P6KE30A	LTV1D30CJ	P6KE30CA	25.60	28.50	31.50	1	41.4	14.7	1
LTV1D33AJ	P6KE33A	LTV1D33CJ	P6KE33CA	28.20	31.40	34.70	1	45.7	13.3	1
LTV1D36AJ	P6KE36A	LTV1D36CJ	P6KE36CA	30.80	34.20	37.80	1	49.9	12.2	1
LTV1D39AJ	P6KE39A	LTV1D39CJ	P6KE39CA	33.30	37.10	41.00	1	53.9	11.3	1
LTV1D43AJ	P6KE43A	LTV1D43CJ	P6KE43CA	36.80	40.90	45.20	1	59.3	10.3	1
LTV1D47AJ	P6KE47A	LTV1D47CJ	P6KE47CA	40.20	44.70	49.40	1	64.8	9.4	1
LTV1D51AJ	P6KE51A	LTV1D51CJ	P6KE51CA	43.60	48.50	53.60	1	70.1	8.7	1
LTV1D56AJ	P6KE56A	LTV1D56CJ	P6KE56CA	47.80	53.20	58.80	1	77.0	7.9	1
LTV1D62AJ	P6KE62A	LTV1D62CJ	P6KE62CA	53.00	58.90	65.10	1	85.0	7.2	1
LTV1D68AJ	P6KE68A	LTV1D68CJ	P6KE68CA	58.10	64.60	71.40	1	92.0	6.6	1
LTV1D75AJ	P6KE75A	LTV1D75CJ	P6KE75CA	64.10	71.30	78.80	1	103.0	5.9	1
LTV1D82AJ	P6KE82A	LTV1D82CJ	P6KE82CA	70.10	77.90	86.10	1	113.0	5.4	1
LTV1D91AJ	P6KE91A	LTV1D91CJ	P6KE91CA	77.80	86.50	95.50	1	125.0	4.9	1
LTV1D100AJ	P6KE100A	LTV1D100CJ	P6KE100CA	85.50	95.00	105.00	1	137.0	4.5	1
LTV1D110AJ	P6KE110A	LTV1D110CJ	P6KE110CA	94.00	105.00	116.00	1	152.0	4.0	1
LTV1D120AJ	P6KE120A	LTV1D120CJ	P6KE120CA	102.00	114.00	126.00	1	165.0	3.7	1
LTV1D130AJ	P6KE130A	LTV1D130CJ	P6KE130CA	111.00	124.00	137.00	1	179.0	3.4	1
LTV1D150AJ	P6KE150A	LTV1D150CJ	P6KE150CA	128.00	143.00	158.00	1	207.0	2.9	1
LTV1D160AJ	P6KE160A	LTV1D160CJ	P6KE160CA	136.00	152.00	168.00	1	219.0	2.8	1
LTV1D170AJ	P6KE170A	LTV1D170CJ	P6KE170CA	145.00	162.00	179.00	1	234.0	2.6	1
LTV1D180AJ	P6KE180A	LTV1D180CJ	P6KE180CA	154.00	171.00	189.00	1	246.0	2.5	1
LTV1D200AJ	P6KE200A	LTV1D200CJ	P6KE200CA	171.00	190.00	210.00	1	274.0	2.2	1
LTV1D220AJ	P6KE220A	LTV1D220CJ	P6KE220CA	185.00	209.00	231.00	1	328.0	1.9	1
LTV1D250AJ	P6KE250A	LTV1D250CJ	P6KE250CA	214.00	237.00	263.00	1	344.0	1.8	1
LTV1D300AJ	P6KE300A	LTV1D300CJ	P6KE300CA	256.00	285.00	315.00	1	414.0	1.5	1
LTV1D350AJ	P6KE350A	LTV1D350CJ	P6KE350CA	300.00	332.00	368.00	1	482.0	1.3	1
LTV1D400AJ	P6KE400A	LTV1D400CJ	P6KE400CA	342.00	380.00	420.00	1	548.0	1.1	1
LTV1D440AJ	P6KE440A	LTV1D440CJ	P6KE440CA	376.00	418.00	462.00	1	602.0	1.04	1
LTV1D480AJ	P6KE480A	LTV1D480CJ	P6KE480CA	408.00	456.00	504.00	1	658.0	0.9	1
LTV1D510AJ	P6KE510A	LTV1D510CJ	P6KE510CA	434.00	485.00	535.00	1	698.0	0.9	1
LTV1D530AJ	P6KE530A	LTV1D530CJ	P6KE530CA	450.00	503.50	556.50	1	725.0	0.8	1
LTV1D540AJ	P6KE540A	LTV1D540CJ	P6KE540CA	459.00	513.00	567.00	1	740.0	0.8	1
LTV1D550AJ	P6KE550A	LTV1D550CJ	P6KE550CA	467.00	522.50	577.50	1	760.0	0.8	1
LTV1D600AJ	P6KE600A	LTV1D600CJ	P6KE600CA	512.00	570.00	630.00	1	828.00	0.75	1

Notes: For bidirectional type having V_R of 12V and less, the I_R limit is double.

Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Figure 1. Peak Pulse Power Rating Curve

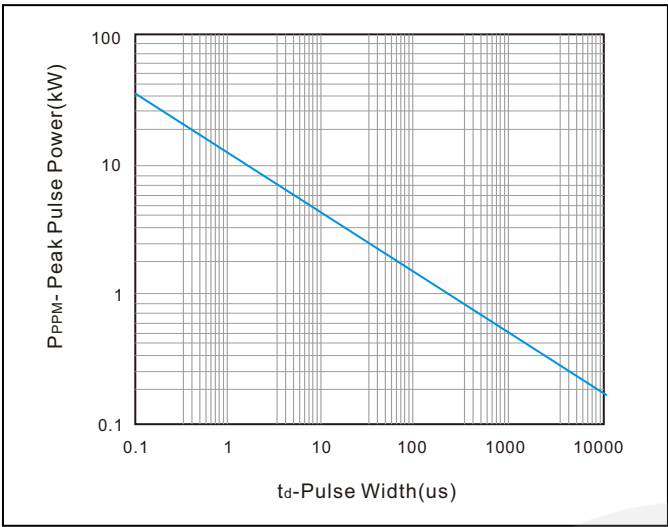


Figure 4. Typical Junction Capacitance

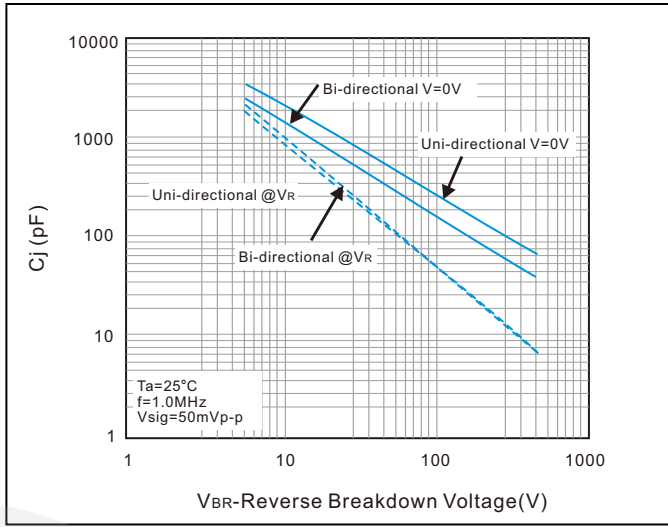


Figure 2. Pulse Derating Curve

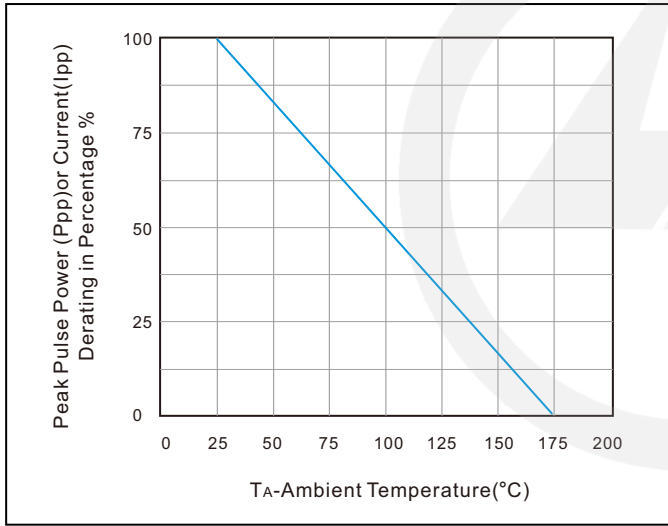


Figure 5. Steady State Power Dissipation Derating Curve

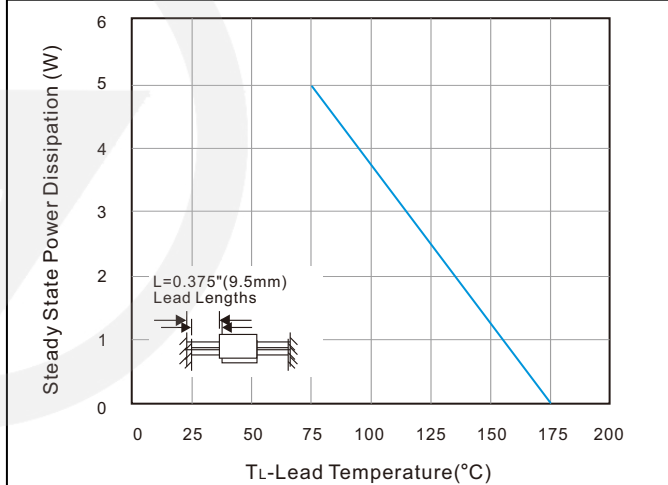


Figure 3. Pulse Waveform

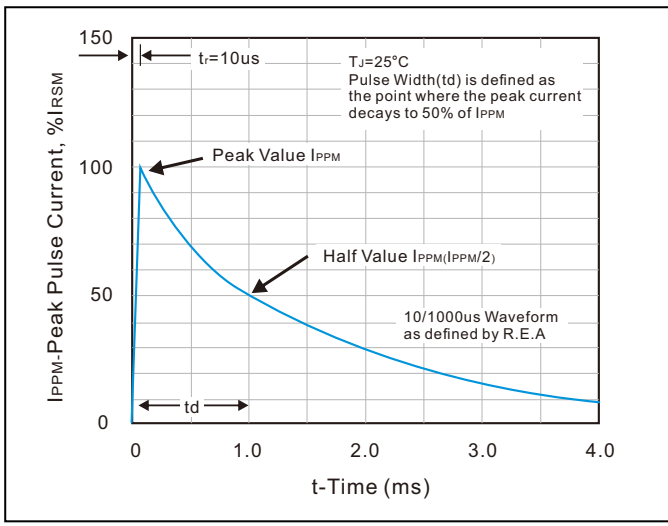
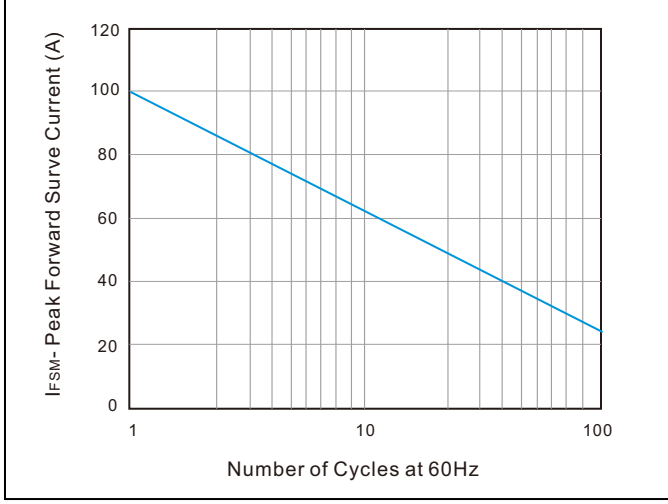
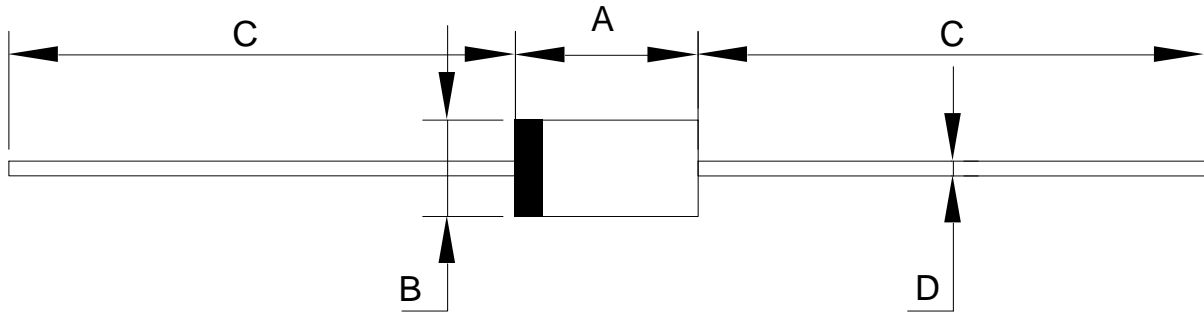


Figure 6. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only

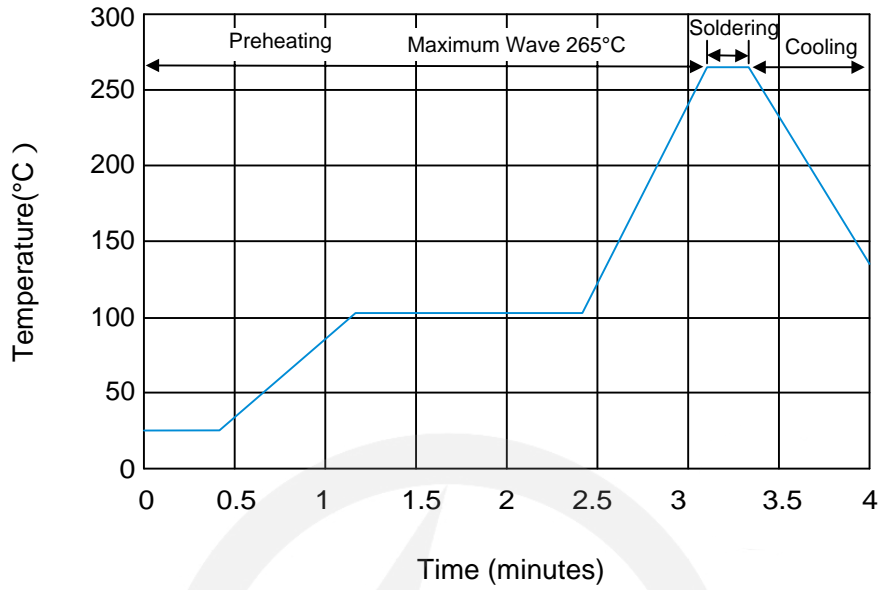


DO-15 Package Outline

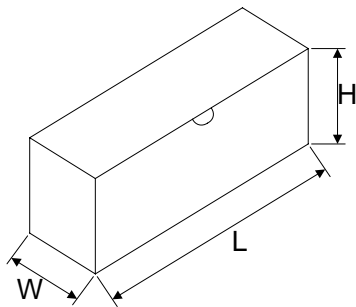


Unit:mm

Dim	Min	Max
A	5.80	7.60
B	2.60	3.60
C	25.4 TYP.	
D	0.71	0.87

Recommended Soldering Conditions
Wave Soldering


Item	Conditions
Peak Temperature	265°C
Dipping Time	10 seconds
Soldering	1 time

Packaging
Box


L	290.0±5.0
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W	80.0±5.0
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H	140.0±5.0
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Quantity: 3000PCS	
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