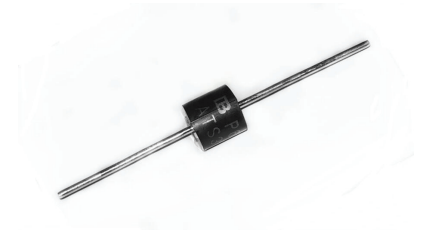


## Transient Voltage Suppressors (TVS) Data Sheet

### Features

- Glass passivated junction
- Low incremental surge resistance.
- Excellent clamping capability
- 10000W peak pulse power capability at 10/1000 $\mu$ s waveform, repetition rate (duty cycle): 0.05%
- Fast response time
- 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.



### Mechanical Data

- Case: Moulded plastic over glass passivated junction
- Terminal: Plated Axial leads, solderable per MIL-STD-750, Method 2026
- Mounting Position: Any

### Applications

- I/O interface
- AC/DC power supply
- Low frequency signal transmission line (RS232, RS485, etc.)
- Meets ISO7637-2 surge spec.

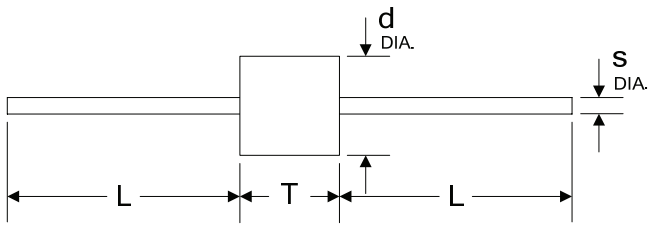
### Maximum Ratings and Characteristics

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

Rating	Symbol	Value	Units
Peak pulse power dissipation at 10/1000 $\mu$ s waveform (Note1, Fig.1)	$P_{PPM}$	Minimum 10000	Watts
Peak pulse current of at 10/1000 $\mu$ s waveform (Note 1, Fig.3)	$I_{PPM}$	See Table	Amps
Steady state power dissipation at $T_L=75^{\circ}$ C (Fig.5)	$P_{M(AV)}$	8.0	Watts
Operating junction and Storage Temperature Range.	$T_J, T_{STG}$	-55 to +175	$^{\circ}$ C
Typical thermal resistance junction to lead	$R_{\theta JL}$	8	$^{\circ}$ C/W
Typical thermal resistance junction to ambient	$R_{\theta JA}$	40	$^{\circ}$ C/W

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

**Dimensions (P600)**

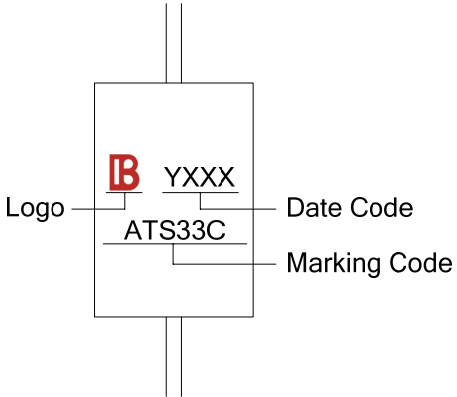
	Symbol	Millimeters		Inches	
		Min.	Max.	Min.	Max.
L	25.40	-	1.000	-	
T	8.60	9.10	0.340	0.360	
d	8.60	9.10	0.340	0.360	
s	1.22	1.32	0.048	0.052	

**Electrical Characteristics (T<sub>A</sub>=25°C)**

Part Number	Type ①	Reverse Stand-Off Voltage	Breakdown Voltage @I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>	ISO 7637-2 2004 5a test waveform 24V System
		V <sub>RWM</sub> (V)	V <sub>BR</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (μA)	@27V <sub>DC</sub>
ATS33C	2CF	33.0	36.7~40.6	5	54.2	184.5	2	174V 350ms 4Ω, interval 60s, 10 times

Notes: ① Specific code by request.

**Part Number Code and Marking**

<p><b>ATS 33 C — 2CF</b></p> <ul style="list-style-type: none"> <li>ATS — Internal Control Code</li> <li>33 — TYPE CODE: C Bi-Directional</li> <li>C — VOLTAGE CODE (Refer to the Electrical Characteristics table)</li> <li>2CF — SERIES CODE</li> </ul>	 <p>Logo: <b>B</b> YXXX Date Code ATS33C Marking Code</p>
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Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$  unless otherwise noted)

Figure 1. Peak Pulse Power Rating Curve

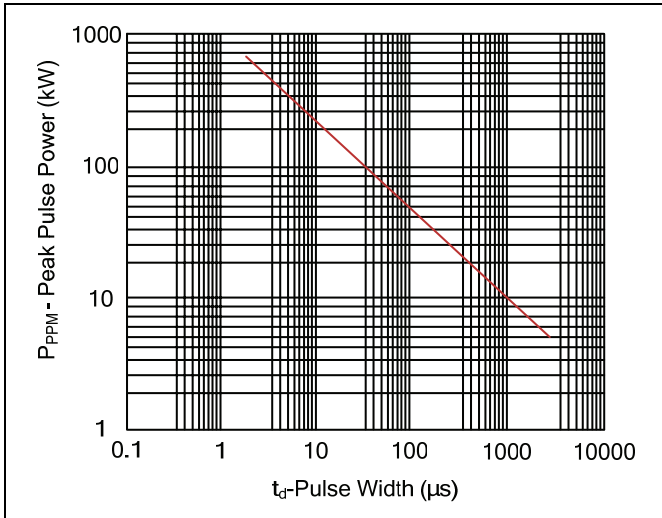


Figure 2. Pulse Derating Curve

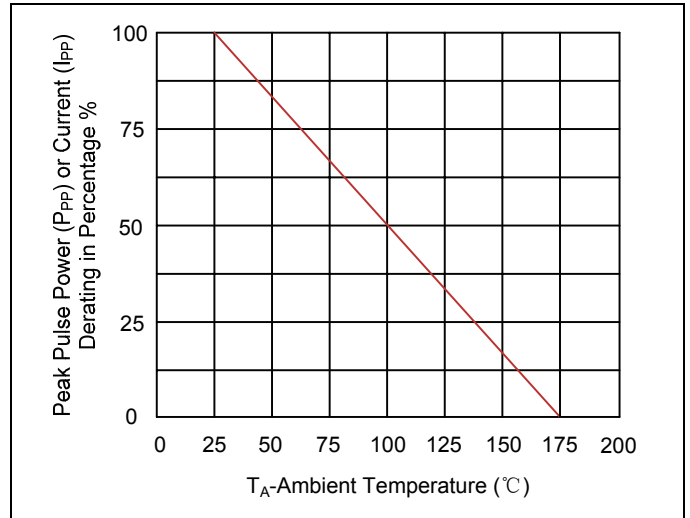


Figure 3. Pulse Waveform

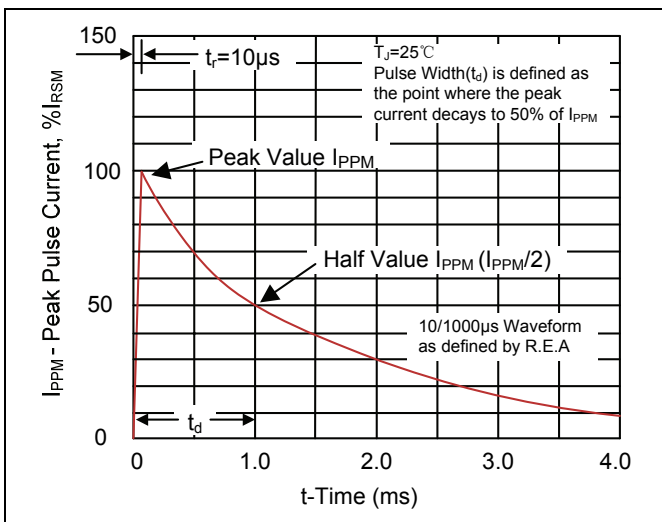


Figure 4. Typical Junction Capacitance

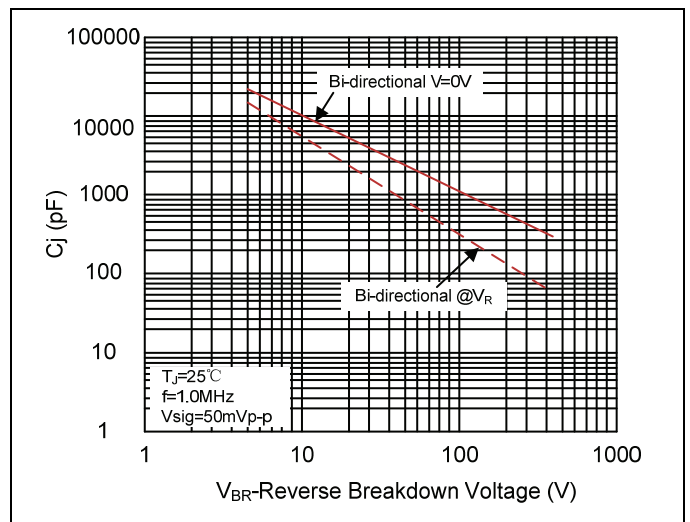
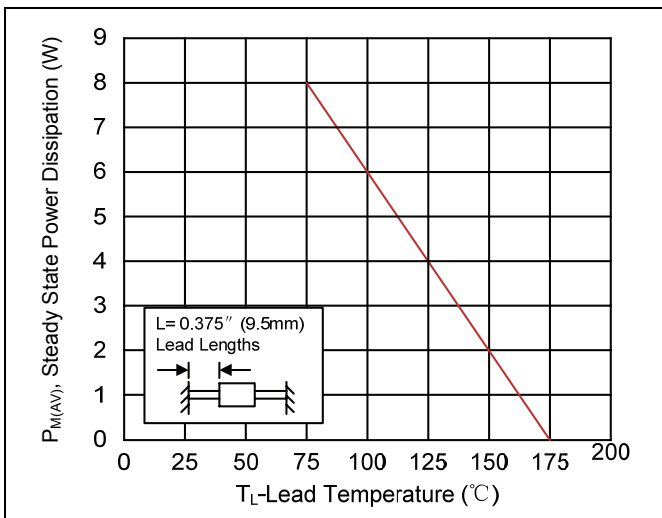
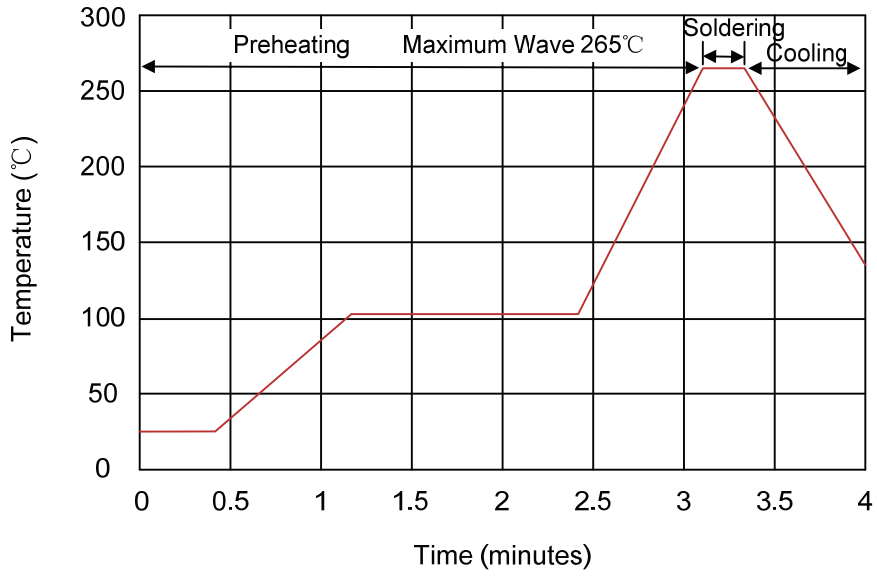


Figure 5. Steady State Power Dissipation Derating Curve



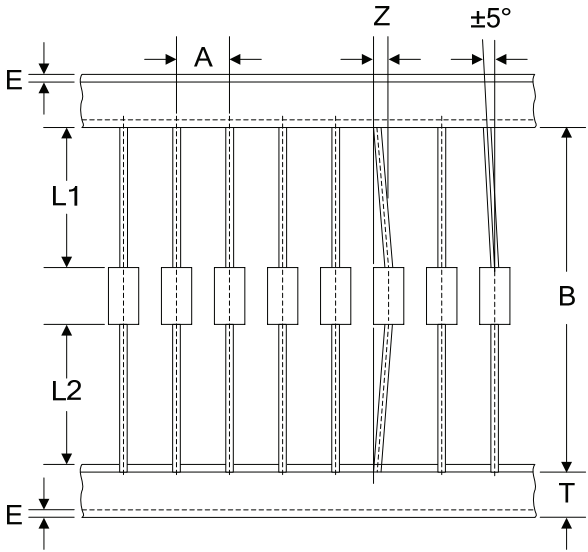
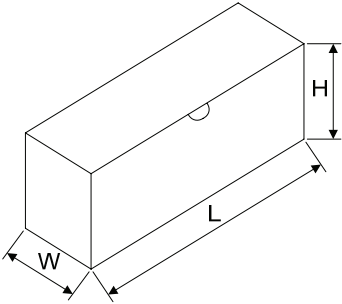
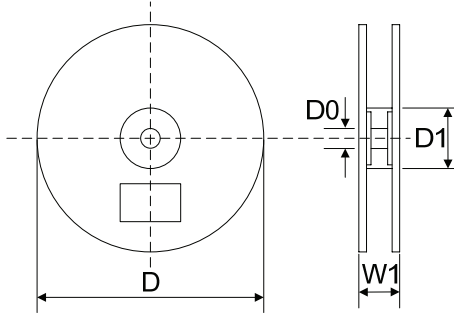
Recommended Soldering Conditions

Wave Soldering



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

**Packaging**

Tape	Symbol      Dimension (mm)	
	A	10.0±0.5
	B	53.0±1.0
	Z	1.2Max.
	T	6.0±0.4
	E	0.8Max.
	L1-L2	1.0Max.
	<p data-bbox="103 873 159 907">Box</p> 	L
W		75.0±5.0
H		114.0±5.0
Quantity: 300PCS		
<p data-bbox="103 1276 159 1310">Reel</p> 	D	330.0±3.0
	D0	16.4±2.0
	D1	86.0±2.0
	W1	76.0±3.0
	Quantity: 800PCS	