

## Features

- ❑ Transient protection for high-speed data lines
  - IEC 61000-4-2 (ESD) ±25kV (Air)
  - ±17kV (Contact)
  - IEC 61000-4-4 (EFT) 40A (5/50 ns)
  - Cable Discharge Event (CDE)
- ❑ Protects five data lines
- ❑ Low capacitance: 0.6pF Typical (I/O-GND)
- ❑ Low leakage current: 0.1µA @ V<sub>RWM</sub> (Typical)
- ❑ Low clamping voltage
- ❑ Each I/O pin can withstand over 1000 ESD strikes for ±8kV contact discharge
- ❑ Green Part

## Description

TT0515TJX is a low capacitance Transient Voltage Suppressor (TVS) designed to provide electrostatic discharge (ESD) protection for high-speed data interfaces. With typical capacitance of 0.6pF only, TT0515TJX is designed to protect parasitic-sensitive systems against over-voltage and over-current transient events. It complies with IEC 61000-4-2 (ESD), Level 4 (±15kV air, ±8kV contact discharge), IEC 61000-4-4 (electrical fast transient - EFT) (40A, 5/50 ns), very fast charged device model (CDM) ESD and cable discharge event (CDE), etc.

TT0515TJX uses small SOT363 package. Each TT0515TJX device can protect five high-speed data lines. The combined features of low capacitance, small size and high ESD robustness make ideal for TT0515TJX high-speed data ports and high-frequency lines (e.g., HDMI & DVI) applications. The low clamping voltage of the guarantees TT0515TJX a minimum stress on the protected IC.

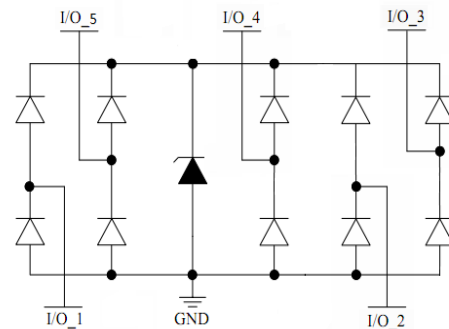
## Applications

- ❑ Video Graphics Cards
- ❑ Desktops, Servers and Notebooks
- ❑ IEEE 1394 Ports
- ❑ USB2.0 Power and Data Line Protection
- ❑ Display Ports
- ❑ SIM Ports

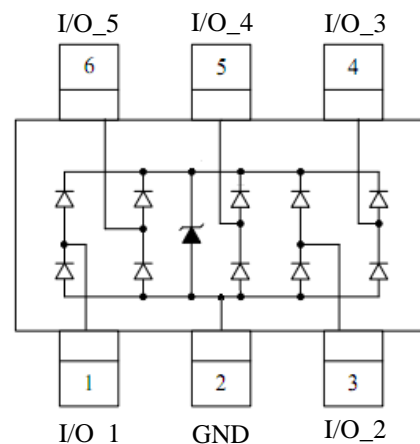
## Mechanical Characteristics

- ❑ SOT363 package
- ❑ Flammability Rating: UL 94V-0
- ❑ Marking: Part number, Date
- ❑ Packaging: Tape and Reel

## Circuit Diagram



## Pin Configuration



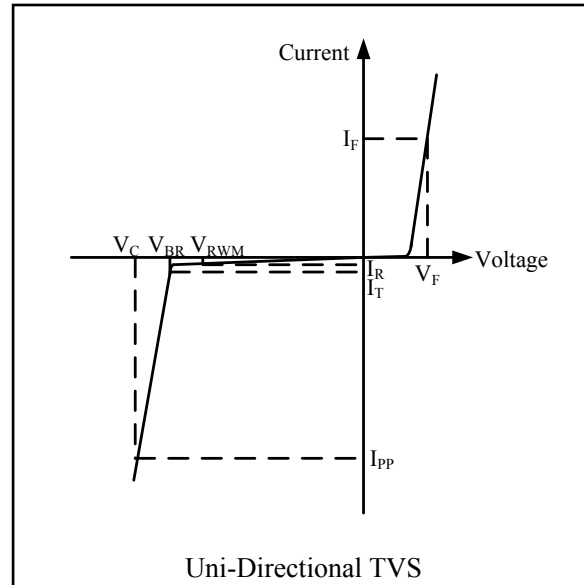
SOT 363  
(Top View)

## Absolute Maximum Rating

Symbol	Parameter	Value	Units
$V_{ESD}$	ESD per IEC 61000-4-2 (Air)	±25	kV
	ESD per IEC 61000-4-2 (Contact)	±17	
$T_{OPT}$	Operating Temperature	-55/+150	°C
$T_{STG}$	Storage Temperature	-55/+150	°C

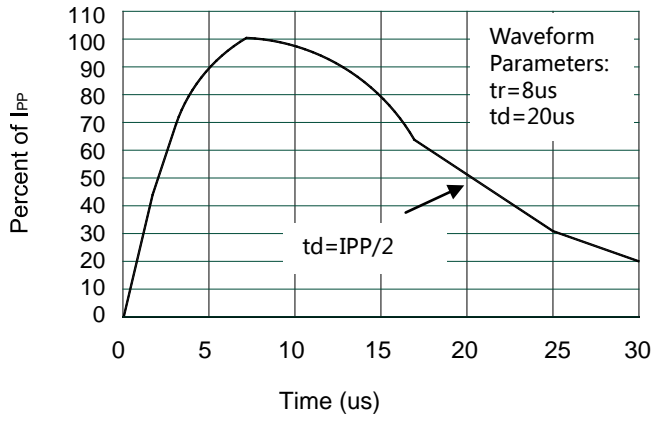
## Electrical Characteristics (T = 25°C)

Symbol	Parameter
$V_{RWM}$	Nominal Reverse Working Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Reverse Breakdown Voltage @ $I_T$
$I_T$	Test Current for Reverse Breakdown
$V_C$	Clamping Voltage @ $I_{PP}$
$I_{PP}$	Maximum Peak Pulse Current
$C_{ESD}$	Parasitic Capacitance
$V_R$	Reverse Voltage
f	Small Signal Frequency

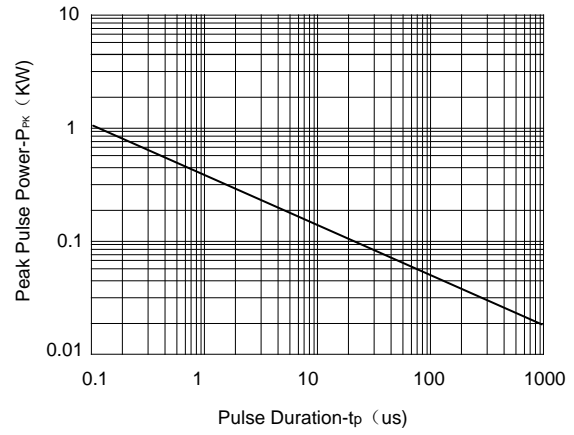


Symbol	Test Condition	Minimum	Typical	Maximum	Units
$V_{RWM}$				5.0	V
$I_R$	$V_{RWM} = 5V, T = 25^\circ C$ Between I/O and GND		0.1	1.0	μA
$V_{BR}$	$I_T = 1mA$ Between I/O and GND	6.0			V
$V_C$	$I_{PP} = 1A, t_p = 8/20\mu s$ Between I/O and GND			11.0	V
$C_{ESD}$	$V_R = 0V, f = 1MHz$ Between I/O and GND		0.6	0.8	pF
$C_{ESD}$	$V_R = 0V, f = 1MHz$ Between I/O and I/O		0.3	0.4	pF

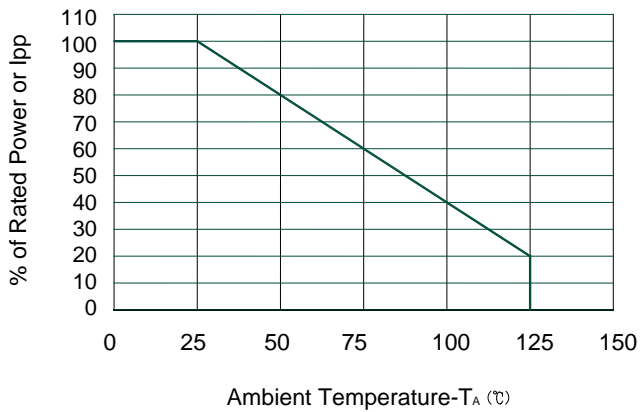
## Typical Characteristic



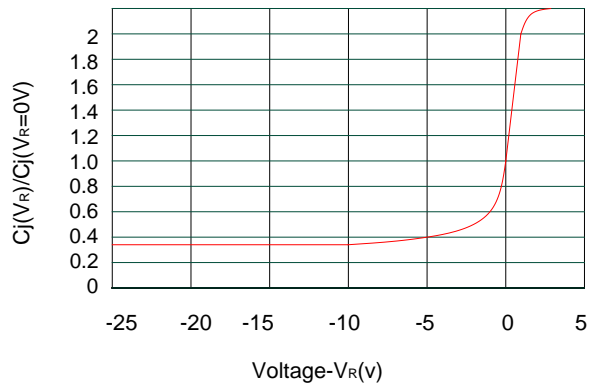
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time



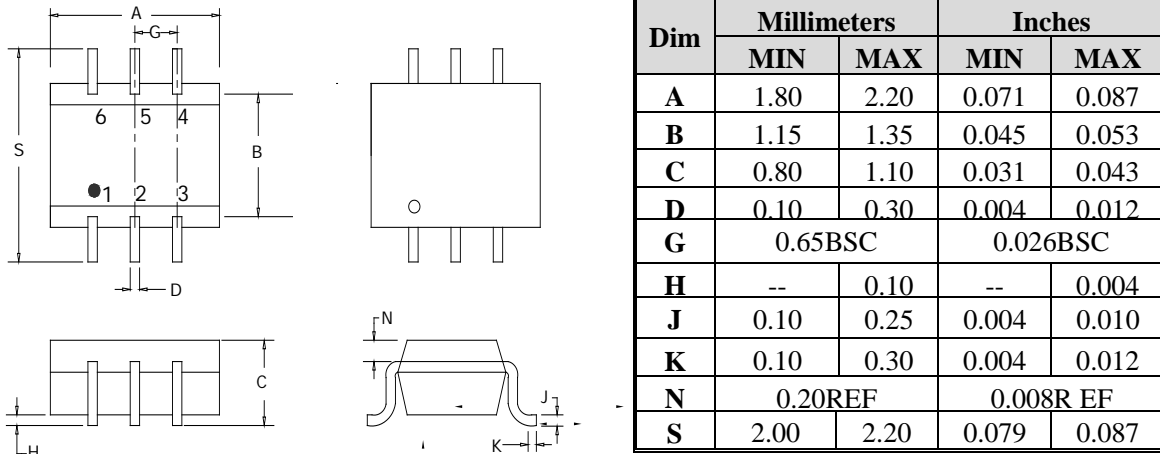
Power Derating Curve



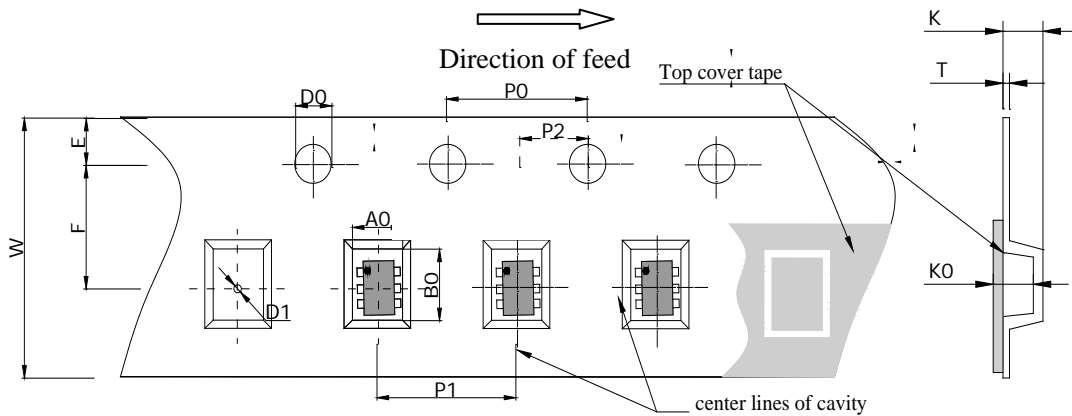
Junction Capacitance vs. Reverse Voltage

## Package Outline

- SOT363 package

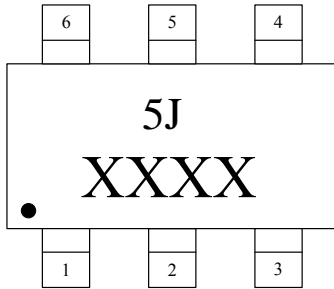


## ■ Product Orientation (continued)



Package	Chip Size	Pocket Size B0×A0×K0(mm)	Tape Width	Reel Diameter	Quantity Per Reel	P0	P1
Sot-363	2.0×2.0×0.9	2.05×2.25×1.15	8mm	178mm(7")	3000	4mm	4mm
D0	D1	E	F	K	T	W	
1.5mm	1.0mm	1.75mm	3.5mm	1.10mm	0.2mm	8mm	

### Marking Codes



**Note:**

- (1) “5J” is part number, fixed.
- (2) “XXXX” is internal code.

### Ordering Information

Part Number	Working Voltage	Quantity Per Reel	Reel Size
TT0515TJX	5V	3,000	7 Inch

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [ESD Suppressors / TVS Diodes](#) category:*

*Click to view products by [Shenzhen JingYang](#) manufacturer:*

Other Similar products are found below :

[60KS200C](#) [D18V0L1B2LP-7B](#) [D5V0F4U5P5-7](#) [NTE4902](#) [P4KE27CA](#) [P6KE11CA](#) [P6KE8.2A](#) [SA60CA](#) [SA64CA](#) [SMBJ12CATR](#)  
[SMBJ33CATR](#) [SMBJ6.5A](#) [SMBJ8.0A](#) [ESD101-B1-02ELS](#) [E6327](#) [ESD112-B1-02EL](#) [E6327](#) [ESD7451N2T5G](#) [19180-510](#) [CPDT-5V0USP-](#)  
[HF](#) [3.0SMCJ33CA-F](#) [3.0SMCJ36A-F](#) [HSPC16701B02TP](#) [JANTX1N6126A](#) [D3V3Q1B2DLP3-7](#) [D55V0M1B2WS-7](#) [SCM1293A-04SO](#)  
[ESD200-B1-CSP0201](#) [E6327](#) [SM12-7](#) [CEN955](#) [W/DATA](#) [VESD12A1A-HD1-GS08](#) [CPDQC5V0-HF](#) [D1213A-01LP4-7B](#) [ESD101-B1-02EL](#)  
[E6327](#) [AOZ8808DI-03](#) [5KP15A](#) [5KP48A](#) [5KP90A](#) [ESD3V3D7-TP](#) [15KPA36A-LF](#) [P4KE56CA](#) [P4KE68A](#) [P4KE91CATR](#) [P6KE120A](#)  
[P6KE13CA](#) [P6KE43CA](#) [P6KE6.8CA](#) [P6KE8.2](#) [P6SMBJ20CA](#) [JANTX1N6072A](#) [SR2835ESKG](#) [SA90CA](#)