

5-Line TVS Diode Array

Features

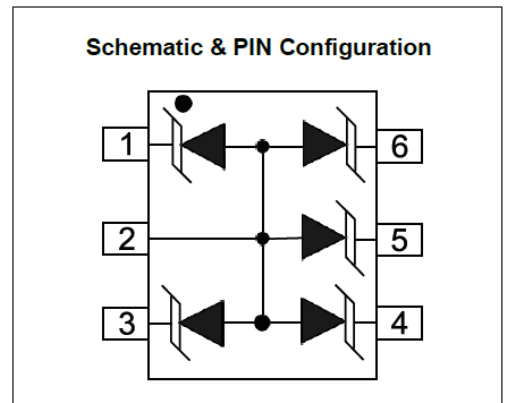
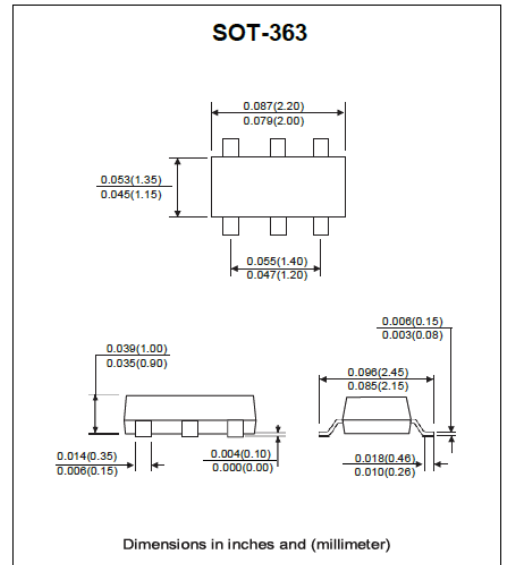
- IEC 61000-4-2 (ESD) $\pm 20\text{kV}$ (air), $\pm 15\text{kV}$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 7.5A (8/20 μs)
- Low leakage current
- Operating Voltage: 5V
- Low clamping Voltage
- Protects five I/O lines

Applications

- Personal Digital Assistants (PDAs) and Pagers
- Cell Phone Handsets and Accessories
- Portable Instrumentation
- Notebook Computers
- Industrial Equipment
- Peripherals

Mechanical Characteristics

- Package: SOT-363 Standard package, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Moisture Sensitivity: Level 1 per J-STD-020
- Material: RoHS compliant



Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PP}	90	W
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{PP}	7.5	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 20	KV
ESD per IEC 61000-4-2 (Contact)		± 15	KV
Operating Temperature Range	T_J	-55 to + 125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to + 150	$^\circ\text{C}$

Electrical Parameters ($T_A = 25^\circ\text{C}$ Unless otherwise noted)	
Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F

Electrical Characteristics ($T_A = 25^\circ\text{C}$ Unless otherwise noted)						
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Reverse Standoff Voltage	V_{RWM}				5	V
Reverse breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$, any I/O to pin 2	6		9	V
Reverse leakage current	I_R	$V_{RWM} = 5\text{V}$			1.0	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ ($t_p = 8/20\mu\text{s}$)		8.5		V
Clamping Voltage	V_C	$I_{PP} = 7.5\text{A}$ ($t_p = 8/20\mu\text{s}$)		11		V
ESD Clamping Voltage	V_C	$I_{PP} = 4\text{A}$, $t_p = 0.2/100\text{ns}$		8.0		V
ESD Clamping Voltage	V_C	$I_{PP} = 16\text{A}$, $t_p = 0.2/100\text{ns}$		12		V
Dynamic Resistance	R_{DYN}	TLP=0.2/100ns		0.2		Ω
Junction capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, Between I/O pins and Ground		40		pF

Typical Performance Characteristics ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

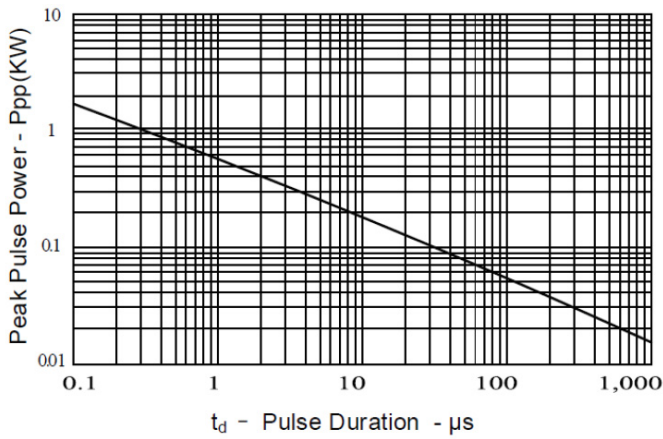


Fig 1. Peak Pulse Power vs. Pulse Time

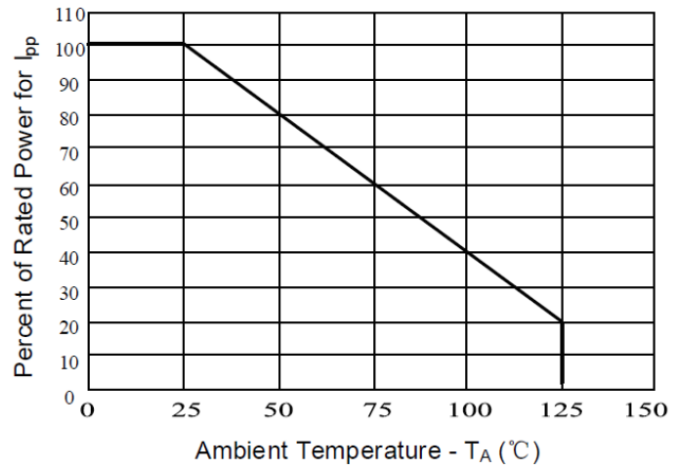


Fig 2. Power Derating Curve

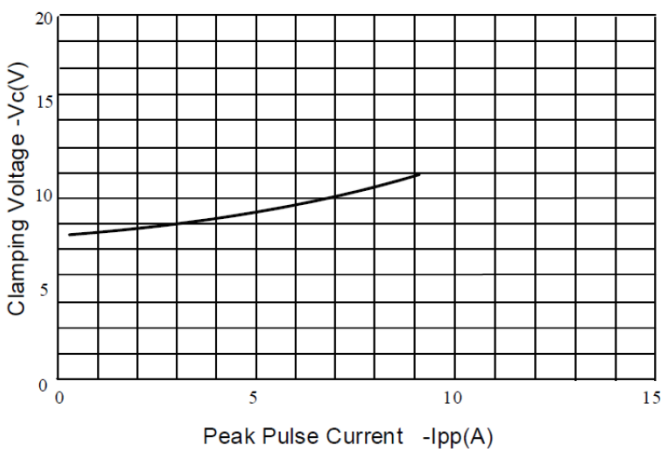


Fig 3. Clamping Voltage vs. Peak Pulse Current

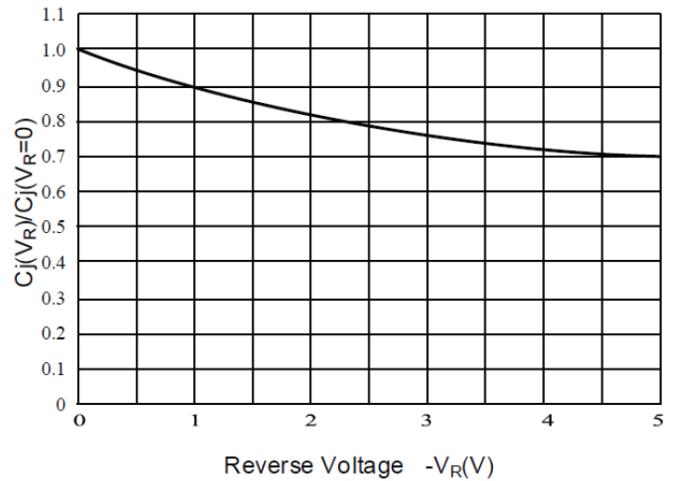


Fig 4. Junction Capacitance vs. Reverse Voltage

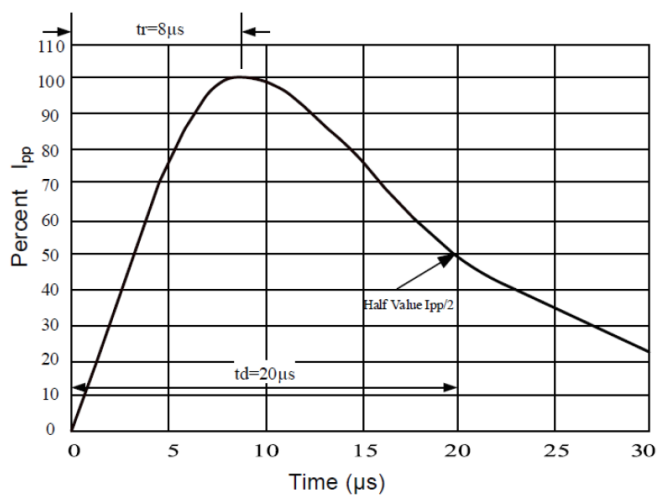
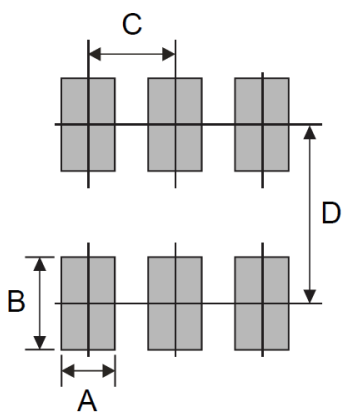


Fig 5. 8/20 μs Pulse Waveform

Suggested PAD Layout

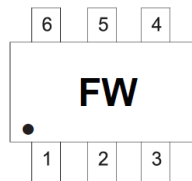
Symbol	SOT-363	
	(mm)	(inch)
A	0.40	0.016
B	0.80	0.031
C	0.65	0.026
D	1.94	0.076



The diagram illustrates the pad layout for the SOT-363 package. It shows two rows of three pads each. Dimension A is the width of a single pad. Dimension B is the width of the three pads in a row. Dimension C is the distance between the centers of two pads in a row. Dimension D is the distance between the centers of two pads in adjacent rows.

Marking Code

Part Number	Marking Code
SC05V5UTT	FW



The marking code diagram shows a rectangular package with the code 'FW' in the center. The pins are numbered 1 through 6 around the perimeter: 1, 2, 3 on the bottom edge and 6, 5, 4 on the top edge. A small dot is located near pin 1.

Ordering information

Part Number	Package	Base qty	Reel Size	Delivery mode
		(pcs)	(inch)	
SC05V5UTT	SOT-363	3,000	7	Tape and reel