

5-Line Ultra TVS Array

FEATURES

- ♦ Low leakage current
- ♦ Operating voltage: 5V
- ♦ Low clamping voltage
- ♦ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 8A (8/20 μs)

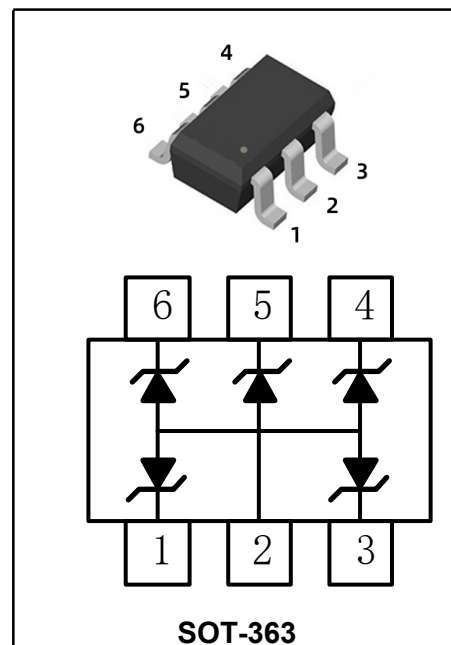
♦ RoHS Compliant

MECHANICAL CHARACTERISTICS

- ♦ Package: SOT-363
- ♦ Lead Finish: Matte Tin
- ♦ Case Material: "Green" Molding Compound.
- ♦ Terminal Connections: See Diagram Below

APPLICATION

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



Marking Code

SMF05C

F5C

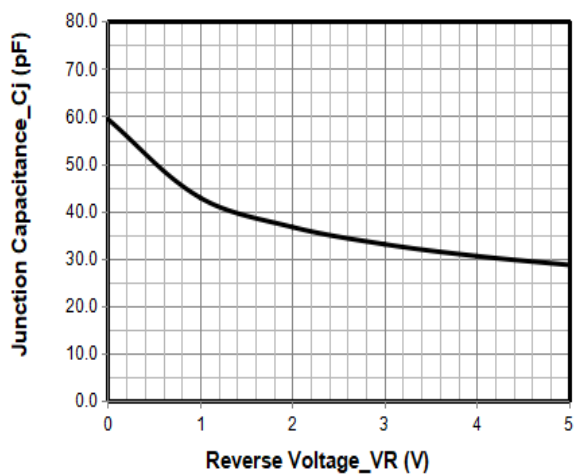
Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P_{pk}	100	W
Peak Pulse Current (8/20 μs)	I_{pp}	8	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 30 ± 30	kV
Operating Temperature Range	T_j	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

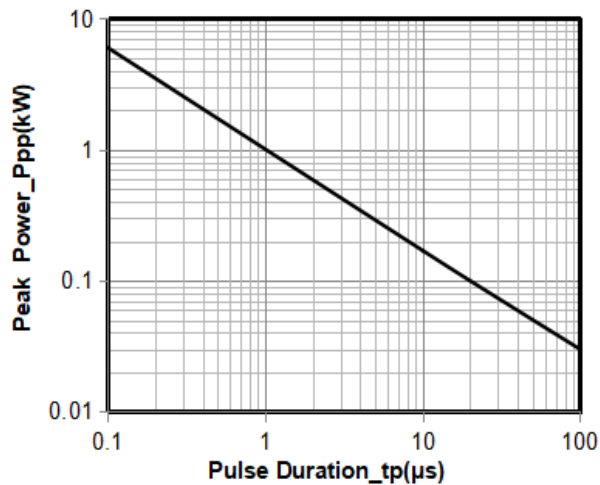
Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Test Condition	Symbol	Min	Typ	Max	Unit
Reverse Working Voltage		V_{RWM}			5	V
Reverse Breakdown Voltage	$I_T = 1\text{mA}$	V_{BR}	6		8.5	V
Reverse Leakage Current	$V_{RWM} = 5\text{V}$, any I/O pin to ground	I_R			0.2	μA
Clamping Voltage	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse), any I/O pin to ground	V_C			9	V
Clamping Voltage	$I_{PP} = 8\text{A}$ (8 x 20 μs pulse), any I/O pin to ground	V_C			12	V
Junction Capacitance	$V_R = 0\text{V}$, $f = 1\text{MHz}$, any I/O pin to ground	C_J		60		pF

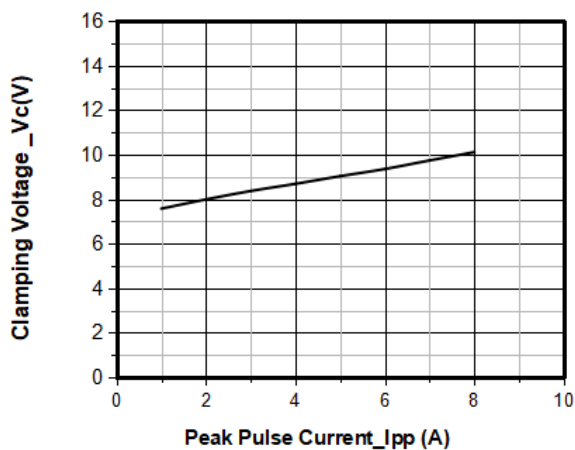
Note 1: I/O pins are Pin 1, 3, 4, 5, 6



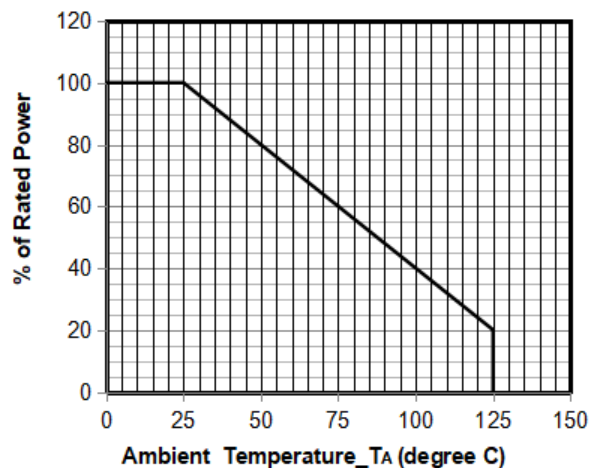
Junction Capacitance vs. Reverse Voltage



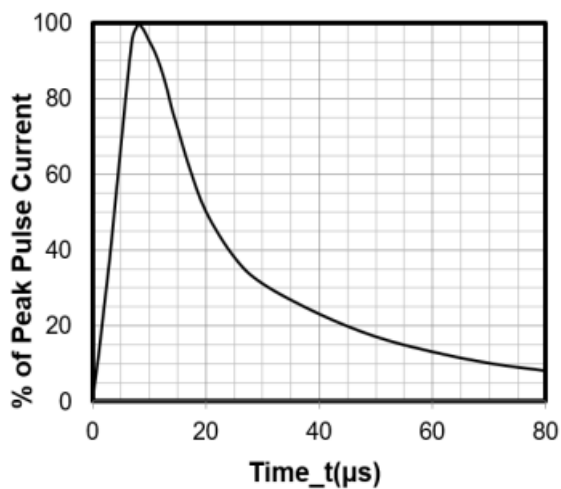
Peak Pulse Power vs. Pulse Time



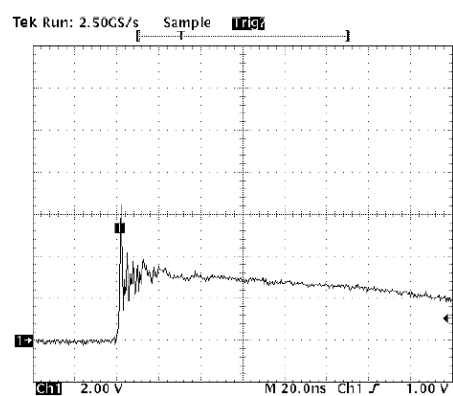
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform



Note: Data is taken with a 10x attenuator

ESD Clamping Voltage

8 kV Contact per IEC61000-4-2

Ordering information

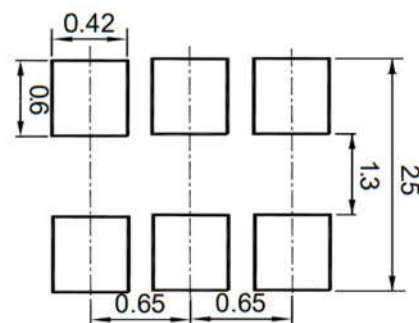
Package	Packing Description	Packing Quantity
SOT-363	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

Package Dimensions

SOT-363

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	0.8	1.1	32	43
A1	-	0.1	-	3.94
bp	0.20	0.30	7.87	11.81
c	0.10	0.25	3.94	9.84
D	1.8	2.2	70.87	86.61
E	1.15	1.35	45.28	53.15
e	1.3		51.18	
e1	0.65		25.6	
HE	2.0	2.2	78.74	86.6
Lp	0.15	0.45	5.90	17.71
Q	0.15	0.25	5.90	9.84
v	0.2		7.78	
w	0.2		7.78	
y	0.1		3.94	

The recommended mounting pad size



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