

WE05-4M1T

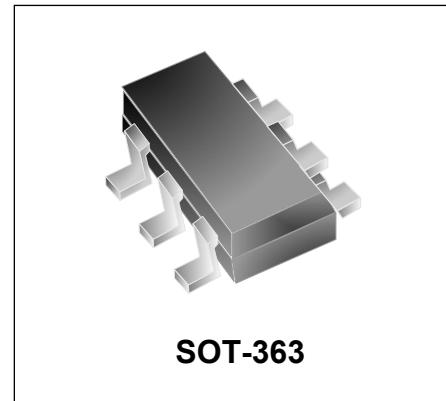
Transient Voltage Suppressor

Features

- Solid-state silicon-avalanche technology
- 100 Watts Peak Pulse Power per Line ($t_p=8/20\mu s$)
- Low operating and clamping voltages
- Protects five I/O lines
- Working Voltages: 5 V
- Low Leakage Current

IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)



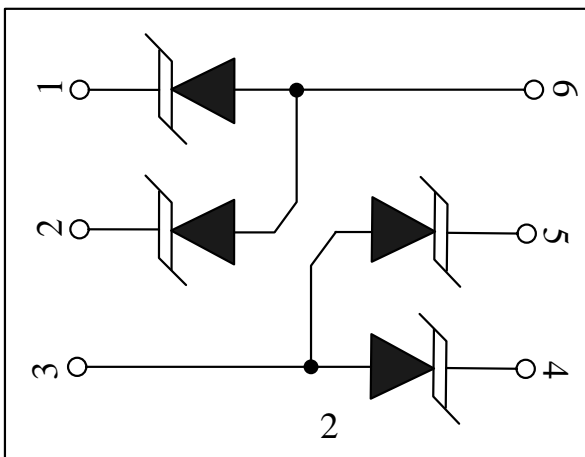
Mechanical Characteristics

- SOT-363 package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

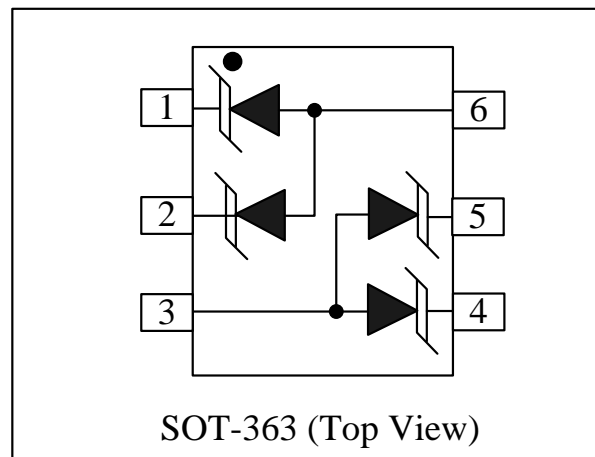
Applications

- Cellular Handsets & Accessories
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- MP3 Player

Circuit Diagram



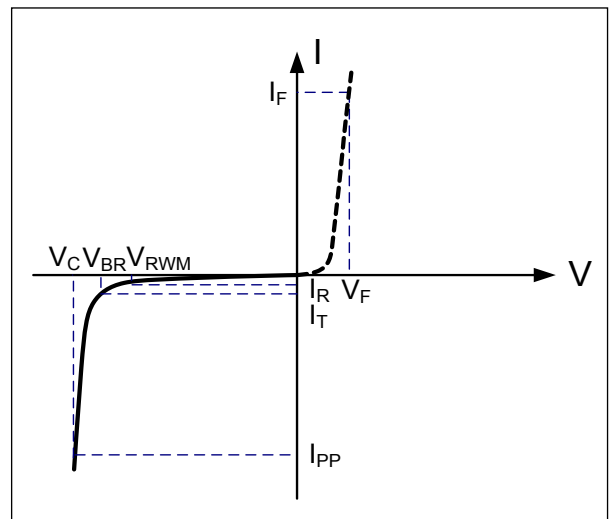
Schematic & PIN Configuration



Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	100	Watts
Peak Forward Voltage ($I_F = 1A, t_p = 8/20\mu s$)	V_{FP}	1.5	V
Operating Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25°C)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum 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

WS05-4M1T						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	6.0			V
Reverse Leakage Current	I_R	$V_{RWM} = 5V, T = 25°C$			1	μA
Peak Pulse Current	I_{PP}	$t_p = 8/20\mu s$			6.5	A
Clamping Voltage	V_C	$I_{PP} = 1A, t_p = 8/20\mu s$			9.5	V
Clamping Voltage	V_C	$I_{PP} = 6.5A, t_p = 8/20\mu s$		13.5	15	V
Junction Capacitance	C_j	Between I/O pins $V_R = 0V, f = 1MHz$		10		pF

Figure 1: Peak Pulse Power vs. Pulse Time

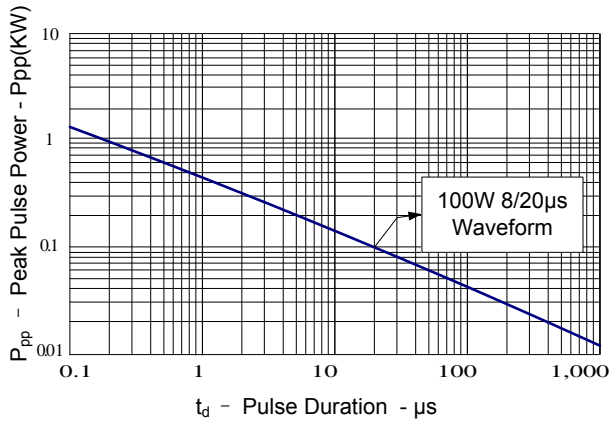


Figure 2: Power Derating Curve

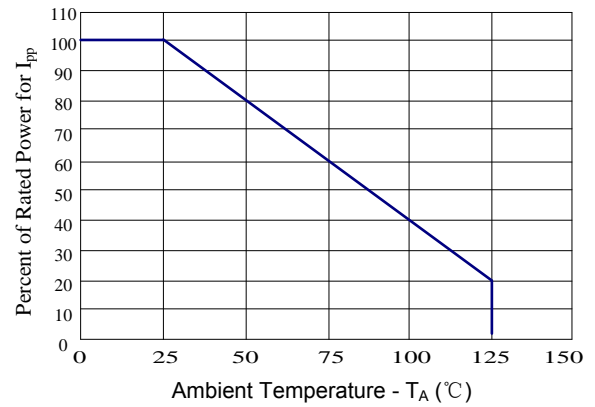


Figure 3: Clamping Voltage vs. Peak Pulse Current

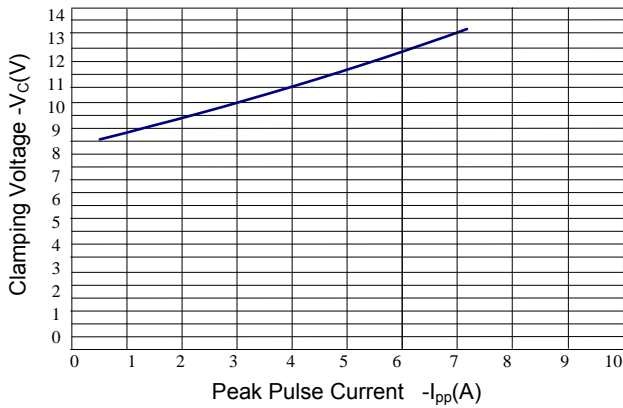


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

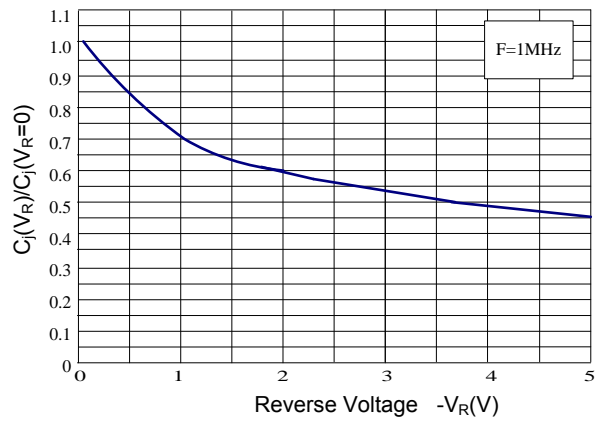


Figure 5: Pulse Waveform

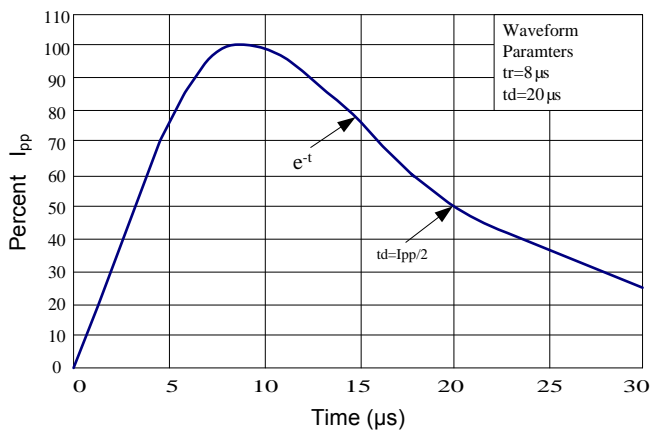
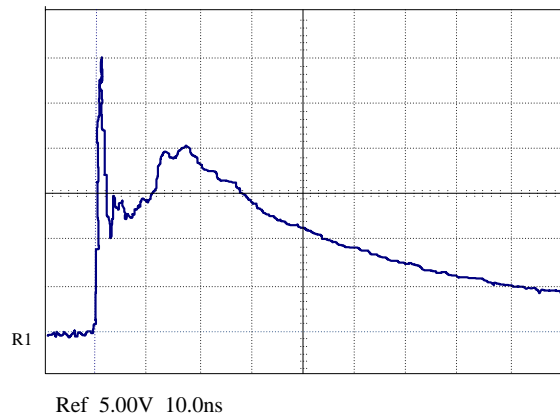


Figure 6: ESD Pulse Waveform (Per IEC 61000-4-2)



Outline Drawing – SOT-363

PACKAGE OUTLINE

SOT-363

SYMBOL	INCHES		MILLIMETER	
	MIN	MAX	MIN	MAX
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
D	0.079	0.087	2.000	2.200
E1	0.045	0.053	1.150	1.350
E	0.085	0.096	2.150	2.450
e	0.026 TYP		0.650 TYP	
e1	0.047	0.055	1.200	1.400
L	0.021 REF		0.525 REF	
L1	0.010	0.018	0.260	0.460
θ	0°	8°	0°	8°

DIMENSIONS		
DIM	INCHES	MILLIMETERS
Z	0.090	2.30
G	0.073	1.85
P	0.020 TYP	0.65 TYP
X	0.008	0.20
Y	0.033	0.085

Notes

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Pin 3 is the cathode (Unidirectional Only).
4. Dimensions are exclusive of mold flash and metal burrs.

Marking Codes

Part Number	WE05-4M1T
Marking Code	5M1