

ESD Suppressor

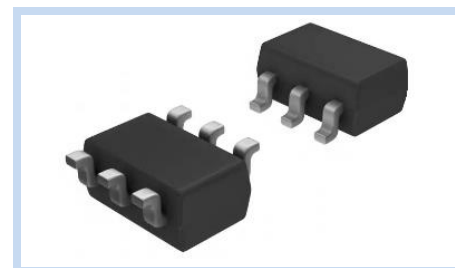
5V 4-Unidirectional SOT-23-6

ME54U11S2361P1

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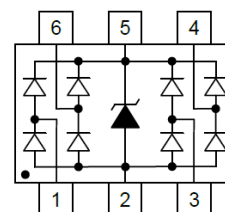
FEATURE

- IEC 61000-4-2 ESD: $\pm 15\text{KV}$ (Air) $\pm 8\text{KV}$ (Contact)
- ESD Protection for four Unidirectional Channels
- Low Leakage Current and Clamping Voltage
- Array of Surge Rated, Low Capacitance Diodes
- Solid-State Silicon-Avalanche Technology



APPLICATION

- USB Power and Data Line Protection
- Notebooks and Desktops
- Monitors and Flat Panel Displays
- IEEE 1394 Firewire Ports



MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage (Contact discharge)	V_{ESD}	± 8	KV
ESD Voltage (Air discharge)		± 15	
Peak Pulse Current ($t_p=8/20\mu s$)	I_{PP}	5.5	A
Operating Supply Voltage (VDD-GND)	V_{DC}	6	V
DC Voltage at any I/O pin	V_{IO}	(GND - 0.5) to (VDD + 0.5)	V
Operating Temperature Range	T_J	-55~+125	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^{\circ}\text{C}$

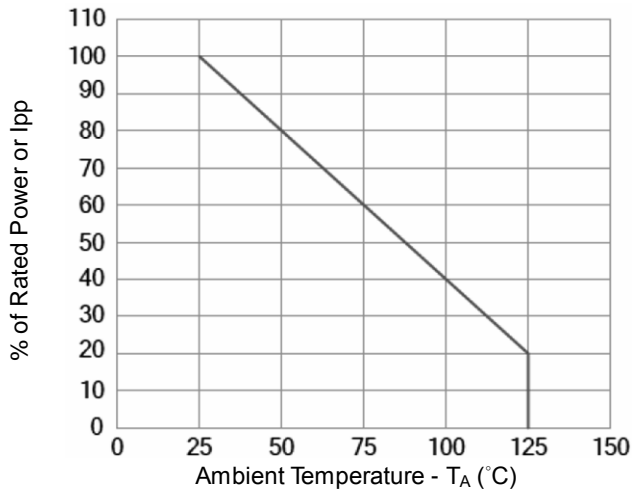
ELECTRICAL CHARACTERISTICS

Parameter	Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	Pin5 to Pin2	V_{RWM}	--	--	5	V
Reverse Leakage Current	$V_{RWM}=5\text{V}$, Pin5 to Pin2	I_R	--	--	2	μA
Channel Leakage Current	$V_{Pin5}=5\text{V}$, $V_{Pin2}=0\text{V}$	I_{CH_LEAK}	--	--	1	μA
Reverse Breakdown Voltage	$I_{BR}=1\text{mA}$, Pin5 to Pin2	V_{BR}	6	--	--	V
Forward Voltage	$I_F=15\text{mA}$, Pin2 to Pin5	V_F	--	0.8	1.2	V
Clamping Voltage	$I_{PP}=5\text{A}$, $t_p=8/20\mu s$, Any Channel Pin to GND	V_{CL}	--	8	11	V
ESD Holding Voltage	IEC61000-4-2, +6kV, Contact mode, Any Channel Pin to GND	V_{hold}	--	14	--	V
Channel Input Capacitance	$V_{Pin5}=5\text{V}$, $V_{Pin2}=0\text{V}$, $V_{IN}=2.5\text{V}$, $f=1\text{MHz}$, Any Channel Pin to GND	C_{IN}	--	1.0	1.1	pF
Channel to Channel Input Capacitance	$V_{Pin5}=5\text{V}$, $V_{Pin2}=0\text{V}$, $V_{IN}=2.5\text{V}$, $f=1\text{MHz}$, Between Channel Pins	C_{CROSS}	--	0.10	0.12	pF
Variation of Channel Input Capacitance	$V_{Pin5}=5\text{V}$, $V_{Pin2}=0\text{V}$, $V_{IN}=2.5\text{V}$, $f=1\text{MHz}$, Channel_x Pin to GND - Channel_y Pin to GND	ΔC_{IN}	--	0.03	0.05	pF

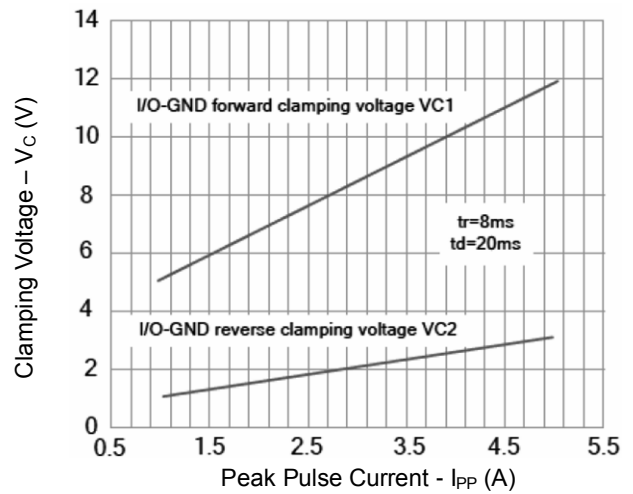
Notes: $T_J=25^{\circ}\text{C}$ unless otherwise specified

CHARACTERISTIC CURVES

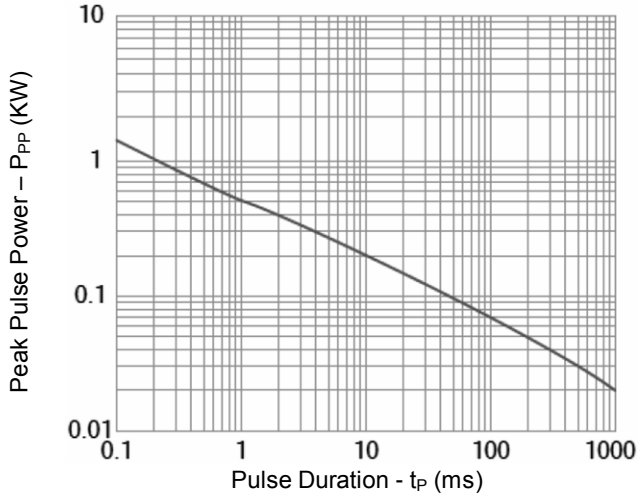
Power Derating Curve



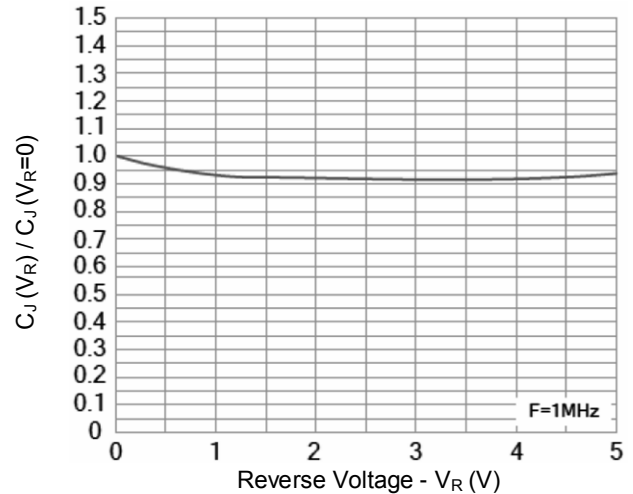
I/O-GND Clamping Voltage vs. Peak Pulse Current



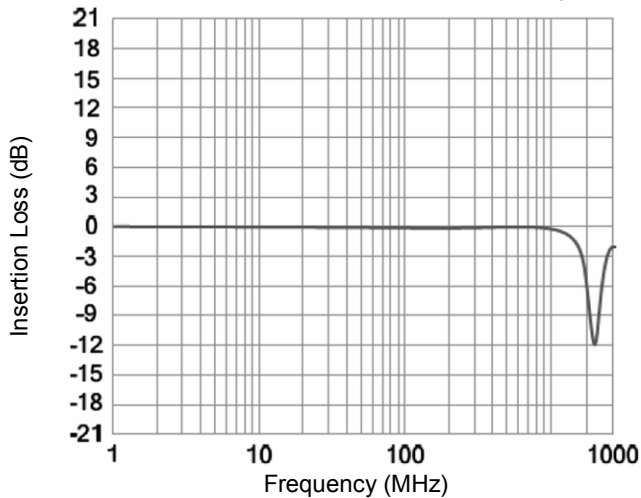
Non-Repetitive Peak Pulse Power vs. Pulse Time



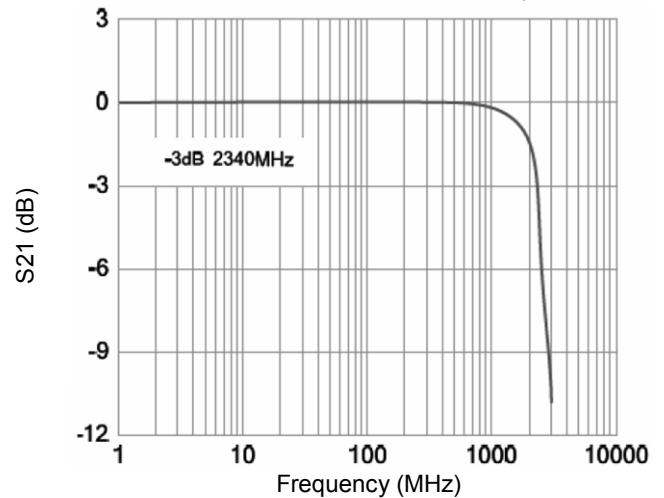
Normalized Capacitance vs. Reverse Voltage



I/O-GND Insertion Loss vs. Frequency



Insertion Loss vs. Frequency



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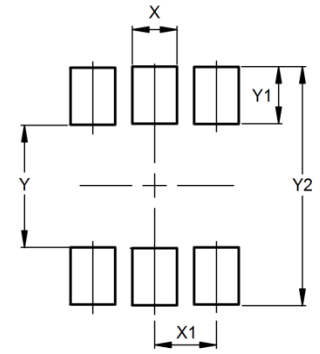
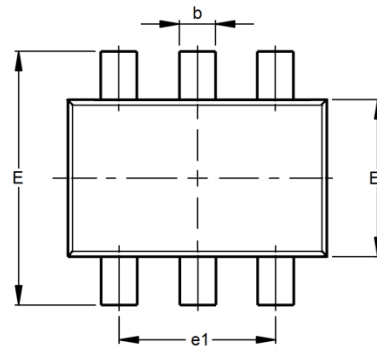
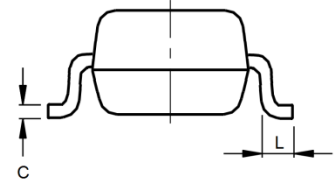
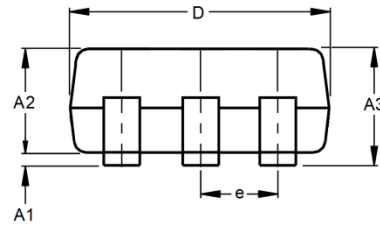
5V 4-Unidirectional SOT-23-6

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DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A1	0.01	0.15
A2	0.90	1.30
A3	0.95	1.45
b	0.30	0.50
C	0.08	0.25
D	2.67	3.17
e	0.95	0.95
e1	1.70	2.10
E	2.55	3.05
E1	1.35	1.85
L	0.30	0.60
Y	1.60	1.60
Y1	0.79	0.79
Y2	3.10	3.10
X	0.55	0.55
X1	0.94	0.94



*Specifications subject to change without notice.