

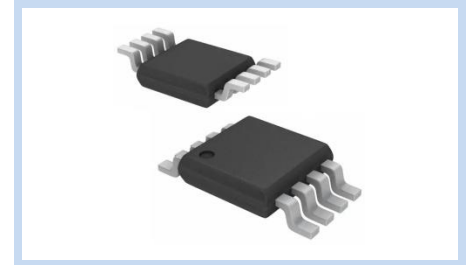
ESD Suppressor 5V 6-Unidirectional MSOP-8

ME56U12MS8

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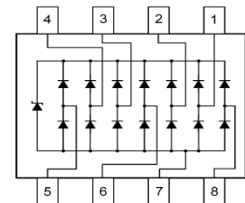
FEATURE

- IEC 61000-4-2 ESD: $\pm 15\text{KV}$ (Air) $\pm 8\text{KV}$ (Contact)
- ESD Protection for six 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 Power ($t_p=8/20\mu\text{s}$)	P_{PP}	150	W
Peak Pulse Current ($t_p=8/20\mu\text{s}$)	I_{PP}	5	A
Operating Supply Voltage (VDD-GND)	V_{DC}	5	V
Lead Soldering Temperature (10 seconds)	T_{S}	260	V
Operating Temperature Range	T_{J}	$-55\sim+125$	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	$-55\sim+150$	$^{\circ}\text{C}$

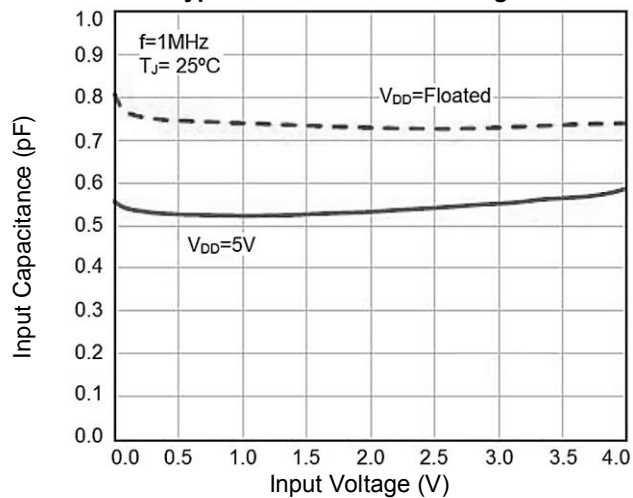
ELECTRICAL CHARACTERISTICS

Parameter	Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	Any Channel Pin to GND	V_{RWM}	--	--	5	V
Reverse Leakage Current	$V_{\text{RWM}}=5\text{V}$, Any Channel Pin to GND	I_{R}	--	--	1	μA
Reverse Breakdown Voltage	$I_{\text{BR}}=1\text{mA}$, Any Channel Pin to GND	V_{BR}	6	--	--	V
Clamping Voltage	$I_{\text{PP}}=1\text{A}$, $t_p=8/20\mu\text{s}$, Any Channel Pin to GND	V_{C}	--	8.5	12	V
Reverse Clamping Voltage	$I_{\text{PP}}=1\text{A}$, $t_p=8/20\mu\text{s}$, Any Channel Pin to GND	V_{RC}	--	1.8	--	V
Channel to Channel Input Capacitance	$V_{\text{Pin5}}=5\text{V}$, $V_{\text{Pin2}}=0\text{V}$, $V_{\text{IN}}=2.5\text{V}$, $f=1\text{MHz}$, Between Channel Pins	C_{J}	--	0.20	0.25	pF
Channel to Ground Input Capacitance	$V_{\text{Pin5}}=5\text{V}$, $V_{\text{Pin2}}=0\text{V}$, $V_{\text{IN}}=2.5\text{V}$, $f=1\text{MHz}$, Channel_x Pin to GND - Channel_y Pin to GND	C_{J}	--	--	0.40	pF

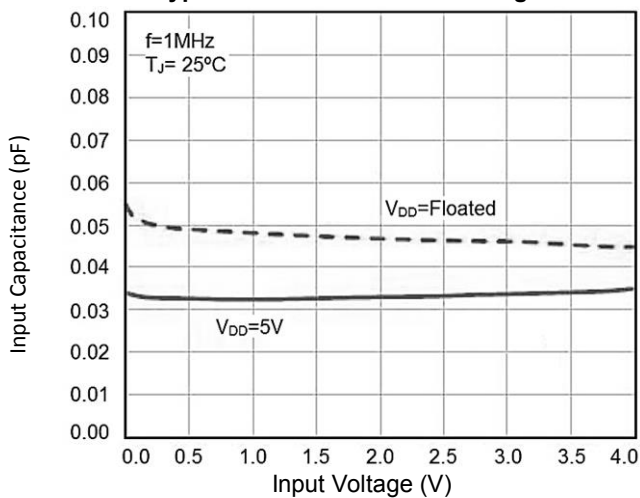
Notes: $T_{\text{J}}=25^{\circ}\text{C}$ unless otherwise specified

CHARACTERISTIC CURVES

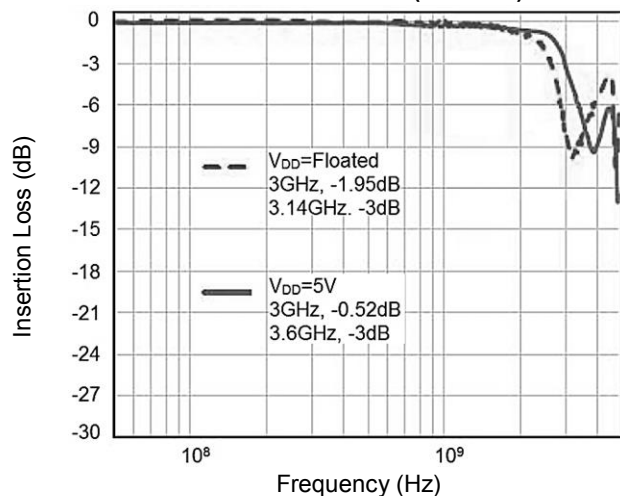
Typical Curve of C_{IN} following V_{IN}



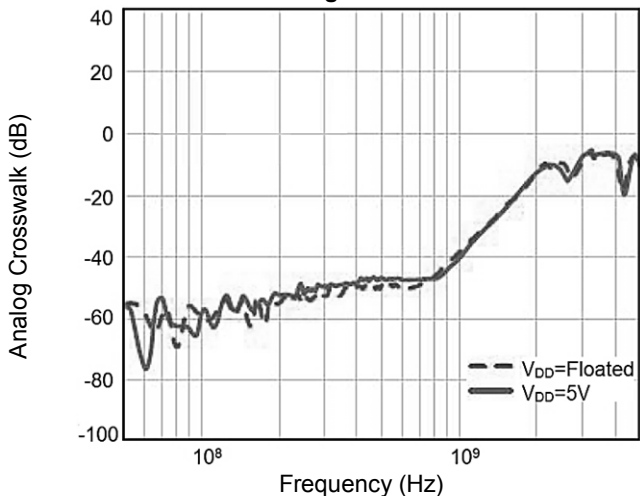
Typical Curve of C_{CH-CH} following V_{IN}



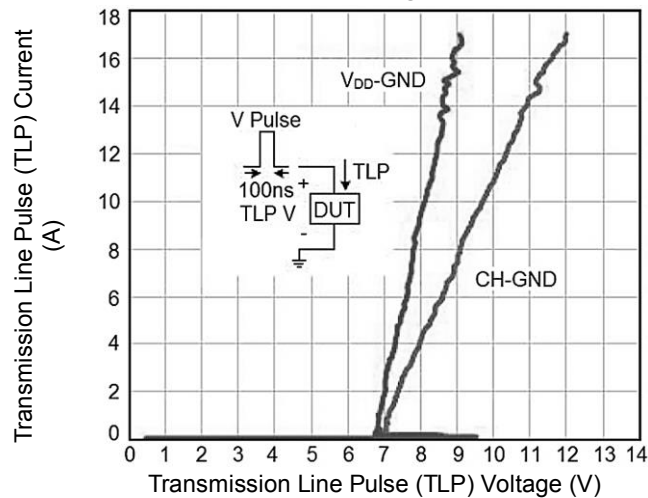
Insertion Loss S21 (CH-GND)



Analog Crosswalk



Transmission Line Pulsing (TLP) Measurement



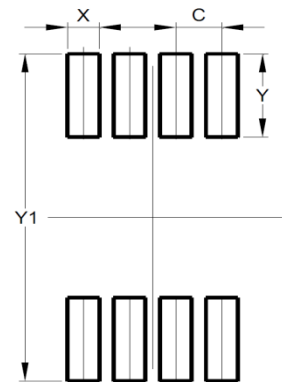
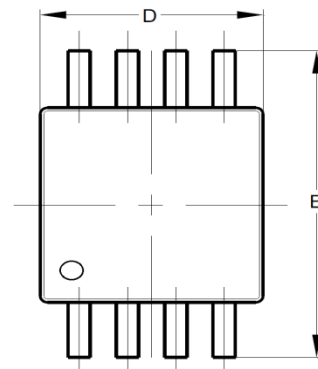
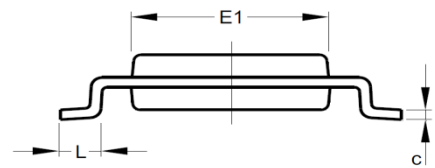
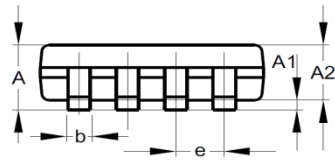
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DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A	-	1.10
A1	0.02	0.15
A2	0.75	0.95
b	0.25	0.38
c	0.09	0.23
e	0.65	0.65
E	4.70	5.10
E1	2.80	3.20
D	2.80	3.20
L	0.40	0.80
C	0.65	0.65
X	0.45	0.45
Y	1.35	1.35
Y1	5.30	5.30



*Specifications subject to change without notice.