

ESD Suppressor 5V 2-Unidirectional SOT-143

ME52U12S143

MERITEK

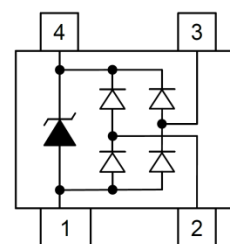
FEATURE

- IEC 61000-4-2 ESD: $\pm 15\text{KV}$ (Air) $\pm 8\text{KV}$ (Contact)
- ESD Protection for two Unidirectional Channels
- Low Leakage Current and Clamping Voltage
- Low Capacitance



APPLICATION

- USB Power And Data Line Protection
- Video Line Protection
- LAN/WAN Device
- Microcontroller Input Protection
- Portable Electronics



MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage (Contact discharge)	V_{ESD}	± 10	KV
ESD Voltage (Air discharge)		± 15	
Peak Pulse Power ($t_p=8/20\mu s$)	P_{PP}	150	W
Peak Pulse Current ($t_p=8/20\mu s$)	I_{PP}	5	A
Operating Temperature Range	T_J	-55~+125	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

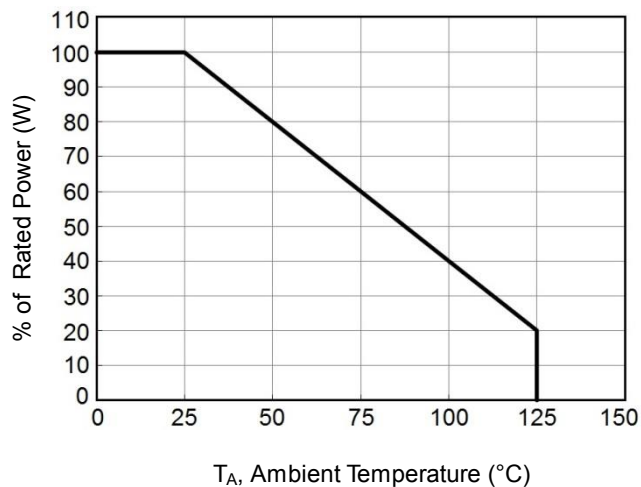
Parameter	Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	Any I/O pin to GND	V_{RWM}	--	--	5	V
Reverse Breakdown Voltage	$I_{BR}=1\text{mA}$, Any I/O pin to GND	V_{BR}	6	--	--	V
Reverse Leakage Current	$V_R=5\text{V}$, Any I/O pin to GND	I_R	--	--	1	μA
Clamping Voltage	$I_{PP}=1\text{A}$, $t_p=8/20\mu s$, Any I/O pin to GND	V_C	--	8.5	12	V
Reverse Clamping Voltage	$I_{PP}=10\text{A}$, $t_p=8/20\mu s$, Any I/O pins to GND	V_C	--	1.8	--	V
Input Capacitance	$V_{dc}=0$, $f=1\text{MHz}$, Any I/O pin to GND	C_J	--	0.6	0.7	pF
Capacitance	$V_{dc}=0$, Bias, $f=1\text{MHz}$, Any I/O pin to GND	C_J	--	1.2	1.4	pF

Notes:

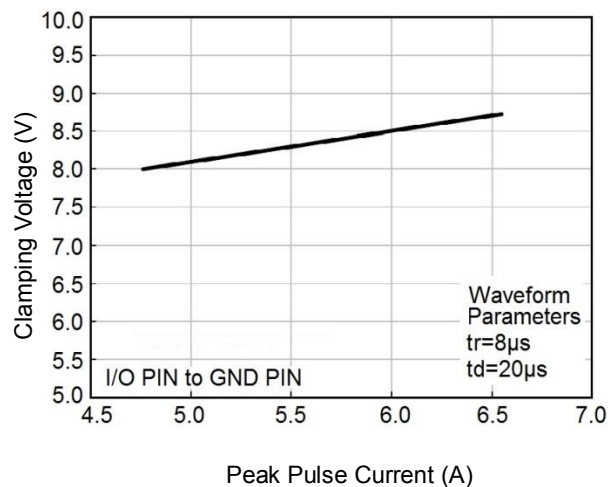
1. $T_J=25^{\circ}\text{C}$ unless otherwise specified
2. pins are plated with pure tin

CHARACTERISTIC CURVES

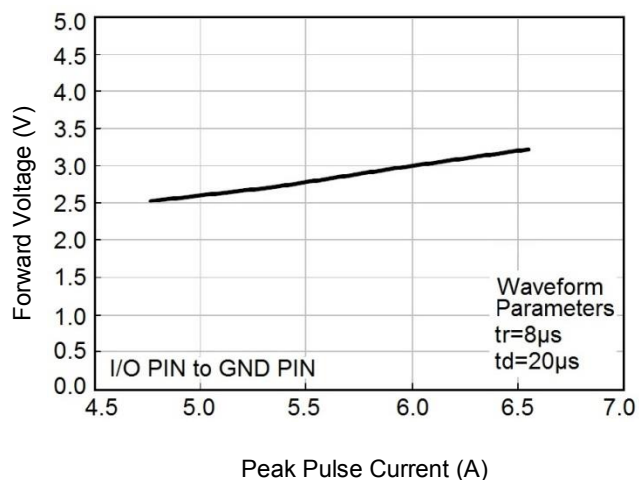
Power Derating Curve



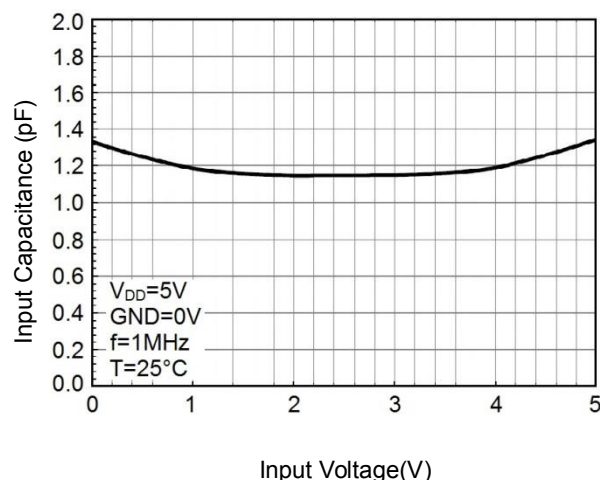
Clamping Voltage vs. Peak Pulse Current



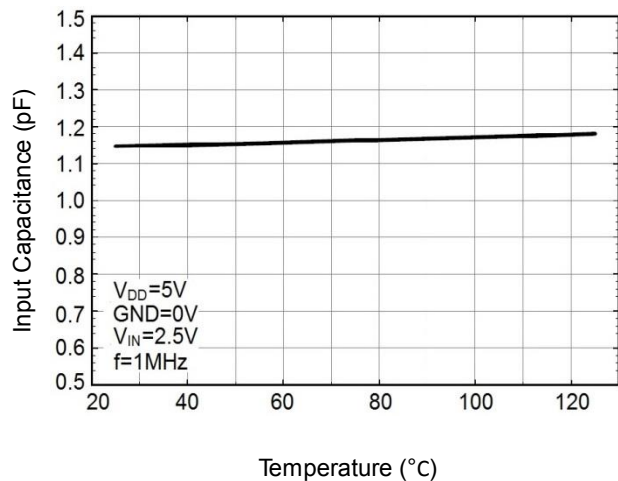
Forward Voltage vs. Forward Current



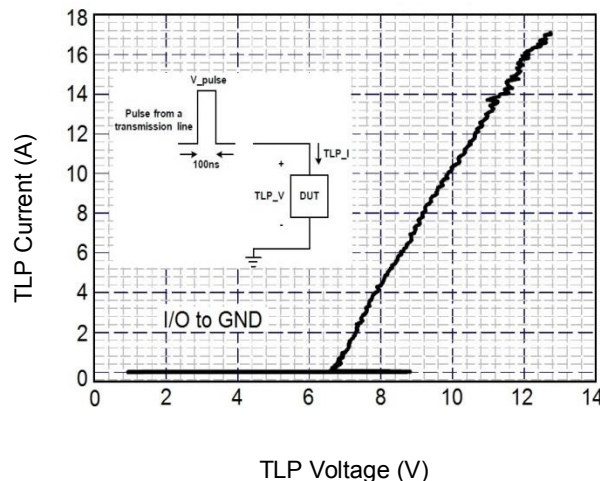
Typical Variation of C_{IN} vs. V_{IN}



Typical Variation of C_{IN} vs. Temp



TLP Measurement



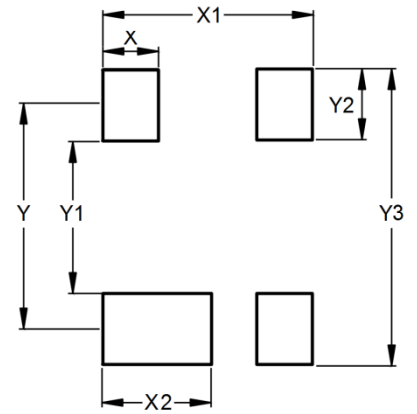
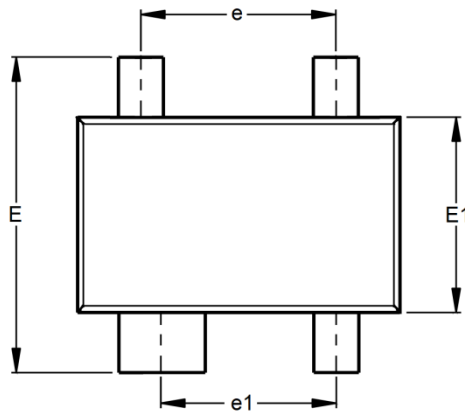
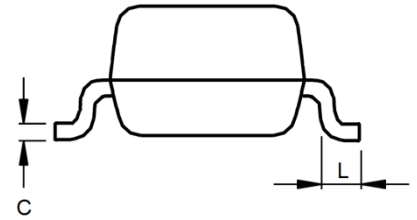
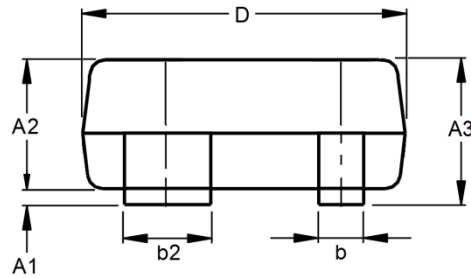
ESD Suppressor 5V 2-Unidirectional SOT-143

ME52U12S143

MERITEK

DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A1	0.00	0.10
A2	0.90	1.05
A3	0.90	1.15
b	0.30	0.50
b2	0.75	0.90
C	0.08	0.15
D	2.80	3.00
e	1.80	2.00
e1	1.60	1.80
E	2.25	2.55
E1	1.20	1.40
L	0.30	0.50
Y	2.00	2.00
Y1	1.30	1.30
Y2	0.70	0.70
Y3	2.70	2.70
X	0.60	0.60
X1	2.50	2.50
X2	1.00	1.00



*Specifications subject to change without notice.