

## Description

The PESD2ETH1G-TR-JSM are ultra-low capacitance transient voltage suppressor arrays, designed to protect applications such as portable electronics and SMART phones. This series is available bidirectional configurations and is rated at 300 Watts for an 8/20 $\mu$ s wave shape. At higher operating frequencies or faster edge rates, insertion loss and signal integrity are a major concern. This series offers a ultra low capacitance and low leakage current in a miniature SOT-23 package.



SOT-23

## Features

- IEC 61000-4-2 Level 4 ESD Protection
  - $\pm 25kV$  Contact Discharge
  - $\pm 25kV$  Air Discharge
- 300W Peak pulse Power (8/20us)
- Low clamping voltage
- Protects two bidirectional or two Unidirectional lines
- Low leakage current
- RoHS compliant

## Applications

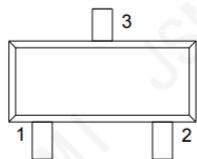
- Ethernet 10/100/1000 Base T
- Handheld - Wireless Systems
- Servers, notebooks, and desktop PCs
- SMART Phones
- USB Interface
- Cellular handsets and accessories

## Absolute Maximum rating

Over operating free-air temperature range (unless otherwise noted)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20us)@25°C	$P_{pk}$	-	300	W
Peak pulse current (tp=8/20us)@25°C	$I_{PP}$		Refer to Table-5	A
ESD (IEC61000-4-2 air discharge) @25°C	$V_{ESD}$	-	$\pm 25$	kV
ESD (IEC61000-4-2 contact discharge) @25°C	$V_{ESD}$	-	$\pm 25$	kV
Junction temperature	$T_J$	-	150	°C
Operating temperature	$T_{OP}$	-40	125	°C
Storage temperature	$T_{STG}$	-55	150	°C
Lead temperature	$T_L$	-	260	°C

## Pin Configuration and Functions



Pin	Name	Description
1	IO	Connect to IO
2	IO	Connect to IO
3	GND	Connect to GND

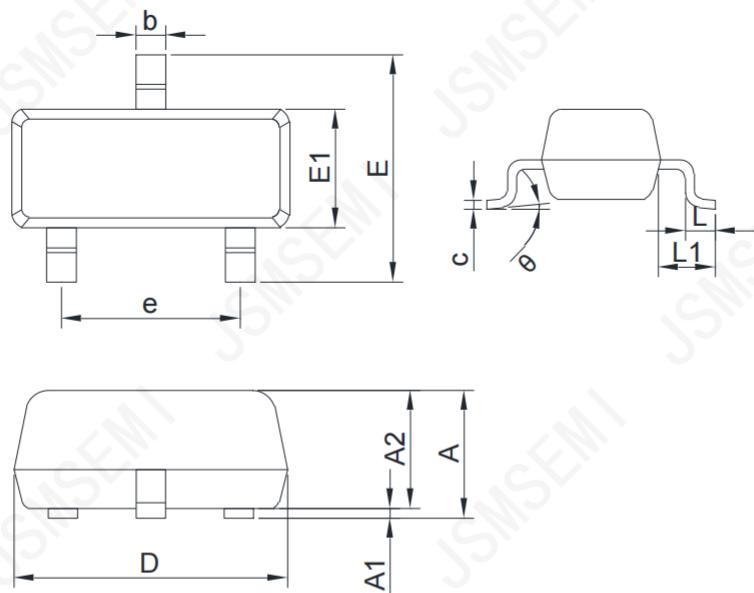
## Electrical Characteristics

Symbol	Description
$V_{RWM}$	Rated reverse stand-off voltage
$V_{BR}$	Minimum breakdown voltage @ $I_T = 1\text{mA}$
$V_{CL}$	Typical Clamping voltage
$I_{PP}$	Maximum peak pulse current
$I_R$	Reverse leakage current @ $V_{RWM}$
$C_o$	Typical line capacitance ( $V_{IO}=0\text{V}$ , $V_{P-P} = 30\text{mV}$ , $f = 1\text{MHz}$ )

 At  $TA = 25^\circ\text{C}$  unless otherwise noted

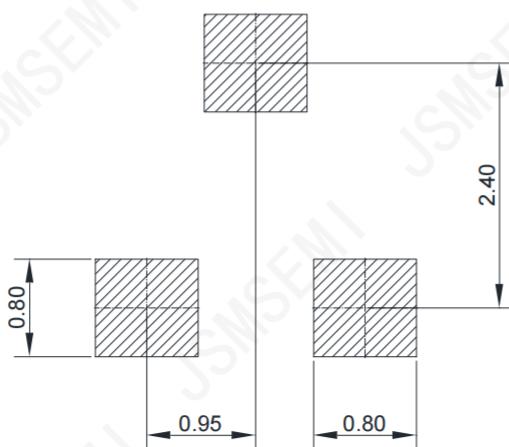
Part Number	$V_{RWM}$ (Max.)	$V_{BR}$ (Min.)	$V_{CL}@I=1\text{A}$ (Typ.)	$I_{PP}$ (Max.)	$V_{CL}@I=I_{PP}$ (Typ.)	$I_R$ (Max.)	$C_o$ (Typ.)
	(V)	(V)	(V)	(A)	(V)	(uA)	(pF)
PESD2ETH1G-TR-JSM	24.0	26.0	34.0	4.0	42.0	1.0	0.8

## Dimension (SOT-23)



COMMON DIMENSIONS CUNITS MEASURE=MILLIMETER					
SYMBOL	MIN	MAX	SYMBOL	MIN	MAX
A	0.90	1.20	E	2.25	2.55
A1	0.00	0.10	E1	1.20	1.40
A2	0.90	1.10	e	1.80	2.00
b	0.30	0.50	L	0.30	0.50
c	0.07	0.18	L1	0.475	0.625
D	2.80	3.04	$\theta$	0°	8°

## Recommended Soldering Footprint



## Revision History

Rev.	Change	Date
V1.0	Initial version	6/27/2021

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