

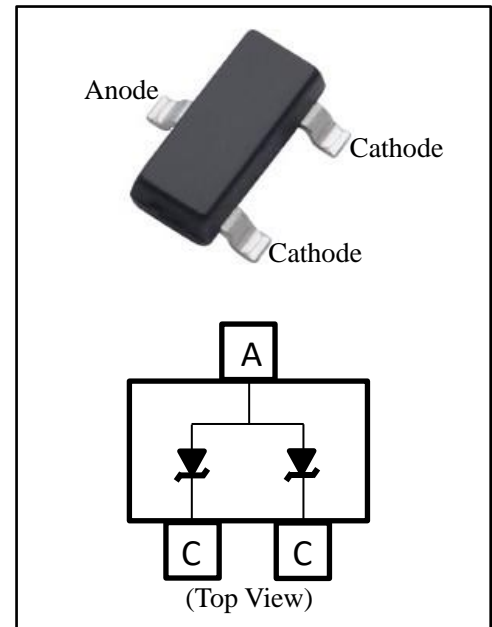
AESD12V04ZS Transient Voltage Suppressor

General Features

- 12V reverse stand-off voltage
- Unidirectional & two-path configurations
- ESD protection according to IEC61000-4-2 air $\pm 30\text{kV}$, contact $\pm 30\text{kV}$
- Ultra-low leakage current: $I_R < 1\text{nA}$ typ
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Applications

- Power supply protection
- Power management
- Audio and video equipment
- Communication systems
- Control signal lines protection



Ordering Information

Part Number	Marking	Package	Remark
AESD12V04ZS	12S	SOT-23	Halogen Free

Absolute Maximum Ratings

$T_A=25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Rating	Unit
P_{pk}	Peak pulse power($t_p=8/20\mu\text{s}$)	80	W
I_{pp}	Peak pulse current($t_p=8/20\mu\text{s}$)	4	A
V_{ESD}	ESD according to IEC61000-4-2 air discharge	± 30	kV
	ESD according to IEC61000-4-2 contact discharge	± 30	
T_{OP}	Operation temperature	$-55\sim 150$	$^\circ\text{C}$
T_L	Lead Temperature	260	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 to 150	$^\circ\text{C}$

Caution: Stresses greater than those listed in the "Absolute Maximum Ratings" may cause permanent damage to the device.

Electrical Characteristics

$T_A = 25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse stand-off voltage		--	--	12	V
I_R	Reverse leakage current	$V_{RWM}=12\text{V}$	--	--	100	nA
V_{BR}	Reverse breakdown voltage	$I_T=1\text{mA}$	13.3	--	16	V
V_F	Forward voltage	$I_T=10\text{mA}$		0.8		V
V_{CL}	Clamping voltage ^[1]	$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$	--	17	--	V
		$I_{PP} = 4\text{A}, t_p = 8/20\mu\text{s}$	--	20	--	
C_J	Junction capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	--	20	--	pF

Notes:

[1] Non-repetitive current pulse, according to IEC61000-4-5.

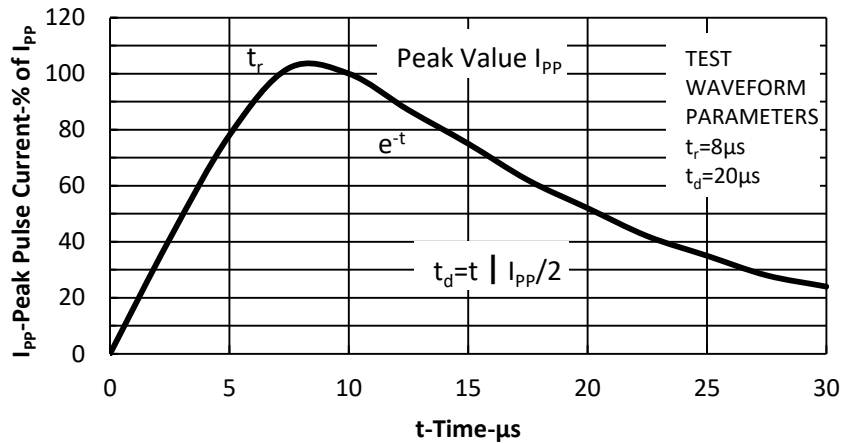


Figure 1: Pulse wave form

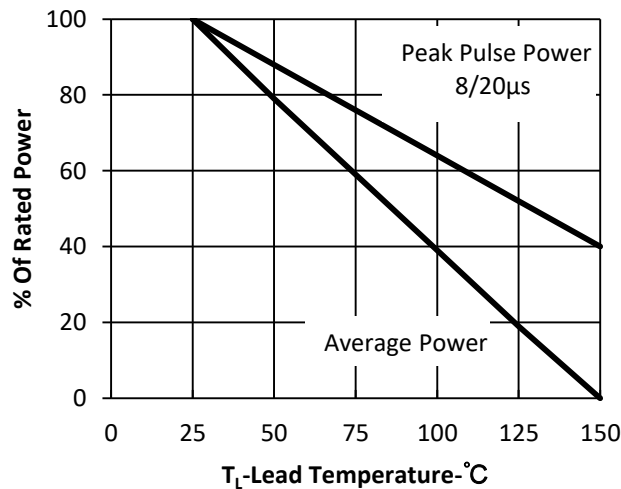
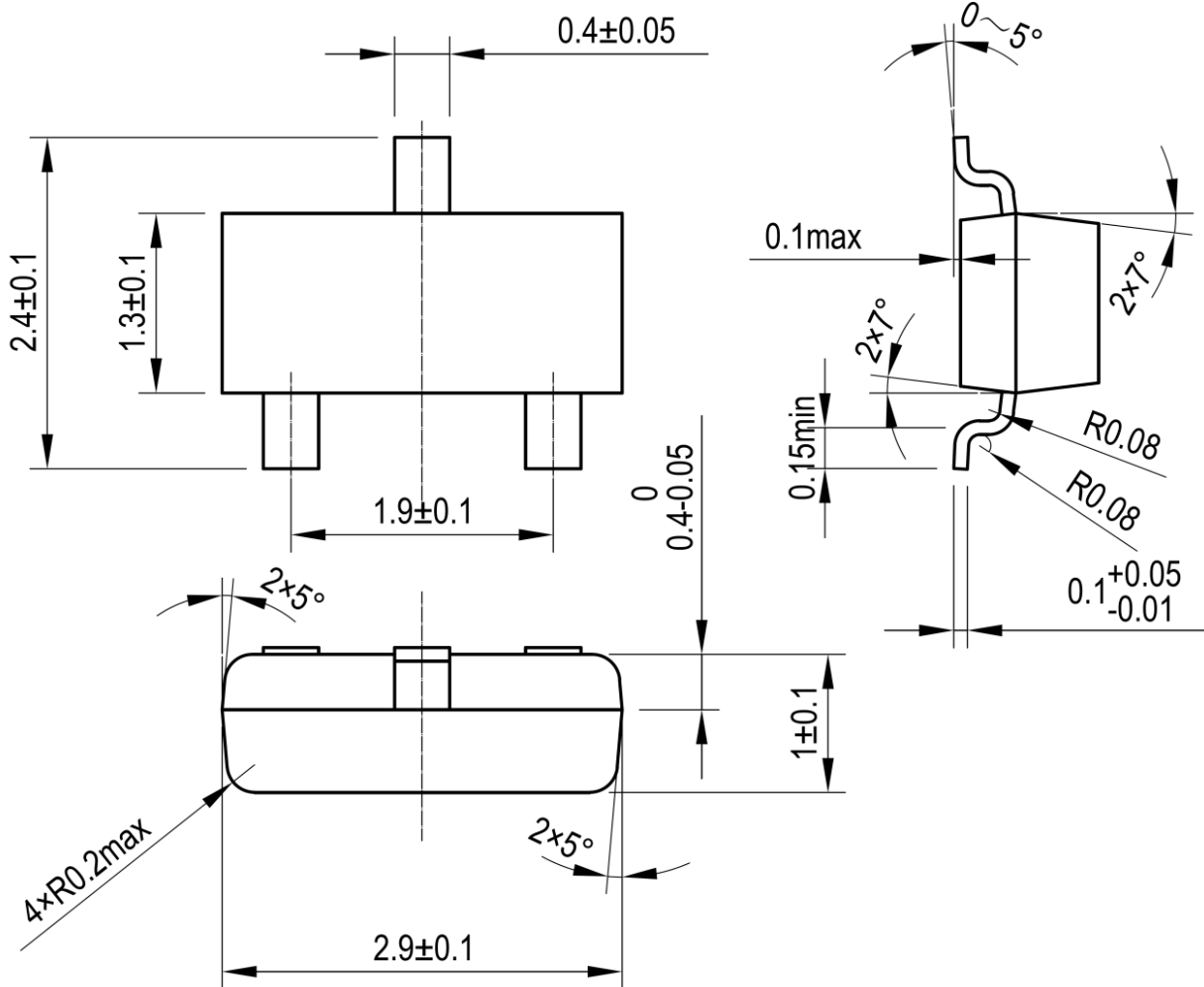


Figure 2: Power derating curve

Package Dimensions

SOT-23





Published by

ARK Microelectronics Co., Ltd.

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