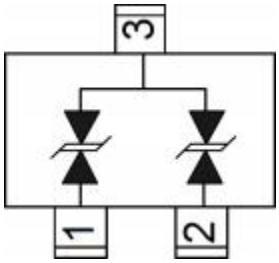
APPEARANCE

SOT-23

PIN CONFIGURATION



circuit Diagram

Descriptions

The APED712H13-23 is a Bi-directional transient voltage suppressor (TVS) to protect sensitive electronic components from electrostatic discharge(ESD). It is particularly well-suited for cellular phones, PMP, MID, PDA, digital cameras and other electronic quipment. The APED712H13-23 is safely dissipating ESD strikes to meet the ESD immunity testing of IEC61000-4-2 (±30KV).

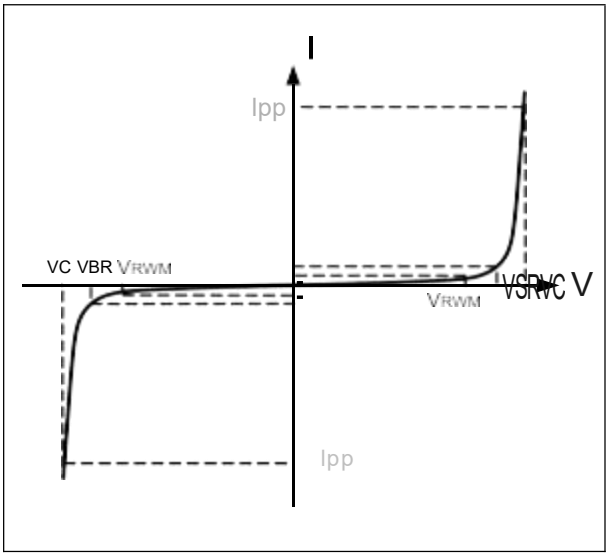
The APED712H13-23 is available in SOT-23 package. Standard products are Pb-free and Halogen-free.

Order information

Device	Package	Shipping
APED712H13-23	SOT-23	3000/Tape&Reel

Electrical Parameters (T=25℃)

Symbol	Parameter
V_{RWM}	Reverse Stand-off Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Reverse Breakdown Voltage @ I_T
I_T	Test Current
IPP	Reverse Peak Pulse Current
V_C	Clamping Voltage @ IPP



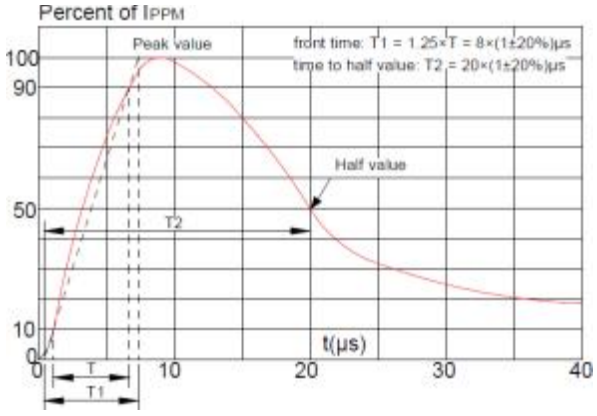
Absolute maximum ratings

Parameter	Symbol	Rating	Unit
Peak pulse power (tp = 8/20μs)	Ppk	320	W
Peak pulse current (tp = 8/20μs)	I_{PP}	13	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±30	kV
ESD according to IEC61000-4-2 contact discharge		±30	kV
Junction temperature	T_J	150	℃
Operating temperature	T_{OP}	-55~125	℃
Storage temperature	T_{STG}	-55~150	℃

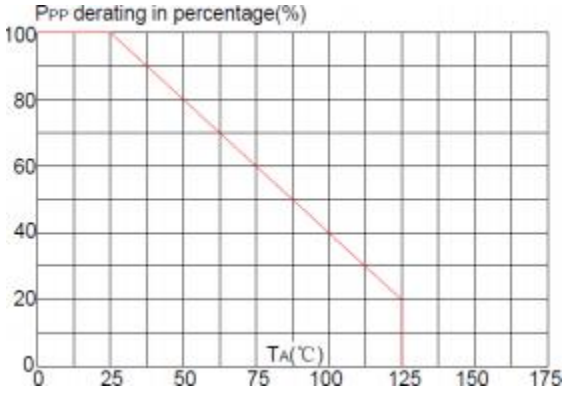
Electronics characteristics (Ta=25℃)

Parameter	Symbol	Condition	Min	Typ	Max	Units
Reverse Stand-off Voltage	VRWM	Pin 1 to Pin 3 and Pin 2 to Pin 3			12	V
		Pin 3 to Pin 1 and Pin 3 to Pin 2			7.0	V
Reverse Breakdown Voltage	VBR	Pin 1 to Pin 3 and Pin 2 to Pin 3 It=1mA	13.5	14.8		V
		Pin 3 to Pin 1 and Pin 3 to Pin 2 It=1mA	7.5	9.0		V
Reverse Leakage Current	IR	Pin 1 to Pin 3 and Pin 2 to Pin 3 VRWM=12V			0.2	uA
		Pin 3 to Pin 1 and Pin 3 to Pin 2 VRWM=7.0V			0.2	uA
Clamping Voltage	VC	Pin 1 to Pin 3 and Pin 2 to Pin 3 Ipp=13A,tp=8/20us			26	V
		Pin 3 to Pin 1 and Pin 3 to Pin 2 Ipp=13A,tp=8/20us			16	V
Junction Capacitance	Cj	Pin 1 to Pin 3 and Pin 2 to Pin 3 VR=0V,f=1MHz		40		pF
		Pin 1 to Pin 3 and Pin 2 to Pin 3 VR=0V,f=1MHz		40		pF

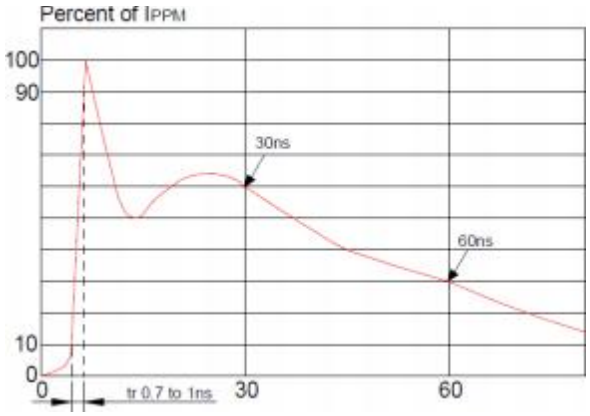
Typical characteristics (Ta=25℃)



Pulse Waveform (8/20us)

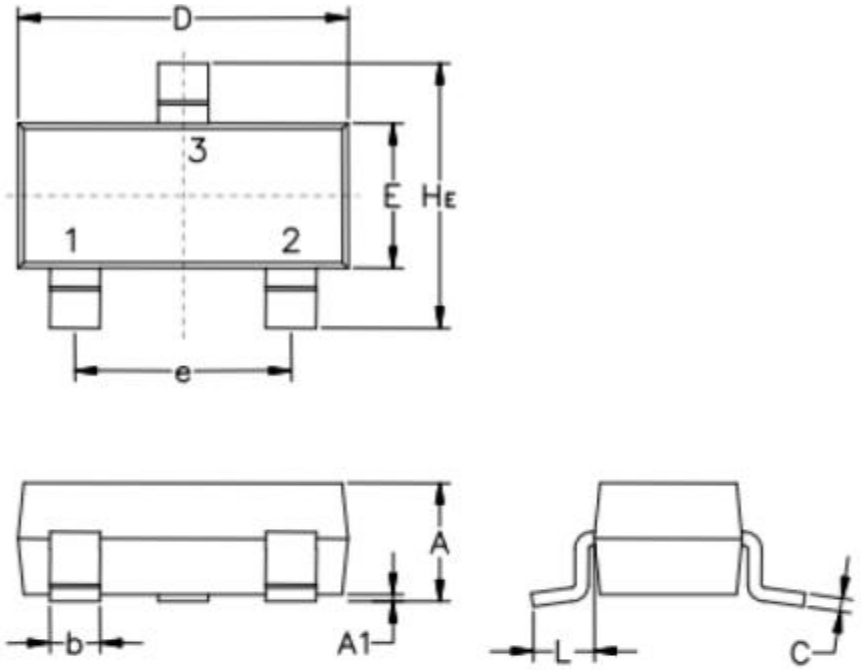


Pulse Derating Curve



ESD Clamping(8kV Contact Discharge)

PACKAGE OUTLINE DIMENSIONS(SOT-23)



Symbol	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.15	0.18	0.20
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.35	0.54	0.69	0.014	0.021	0.029
H_E	2.10	2.40	2.64	0.083	0.094	0.104

Note:

This recommended land pattern is for reference purpose only.