

Features

- 4 channels of ESD protection
- Provide transient protection:
IEC 61000-4-2 (ESD) ± 15 kV (air), ± 8 kV (contact)
IEC 61000-4-4 (EFT) 40A (5/50ns)
IEC 61000-4-5 (Surge) 5A (8/20 μ s)
- Low clamping voltage
- Low operating voltage
- Improved zener structure
- Optimized package for easy high speed data lines PCB layout
- RoHS compliant
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

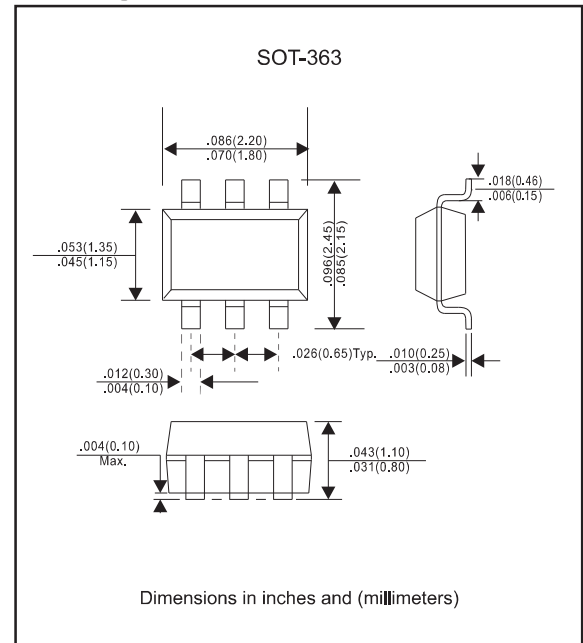
Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-363
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any

Applications

- HDMI / DVI ports
- Display Port interface
- 10M / 100M / 1G Ethernet
- USB 2.0 interface
- VGA interface
- Set-top box
- Flat panel Monitors / TVs
- PC / Note book

Package outline



Maximum ratings (at $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Peak pulse power(8/20 μ s)	PPP	100	W
Peak pulse current IEC 61000-4-5(8/20 μ s)	IPP	5	A
ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2(Contact)	VESD	± 15 ± 8	kV
Operating junction temperature range	T_J	-55 to +125	$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^\circ\text{C}$

Electrical characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Reverse working voltage		V_{RWM}			5.0	V
Reverse breakdown voltage	$I_T=1\text{mA}$	V_{BR}	6.0			V
Reverse leakage current	$V_{RWM}=5\text{V}$	I_R			0.5	μA
clamping voltage	$I_{PP}=5\text{A}$, $t_p=8/20\mu\text{s}$	V_C			20	V
Junction capacitance	$V_R=0\text{V}$, $f=1\text{MHz}$	C_J		0.8		pF

Rating and characteristic curves

FIG.1: V- I curve characteristics (Uni-directional)

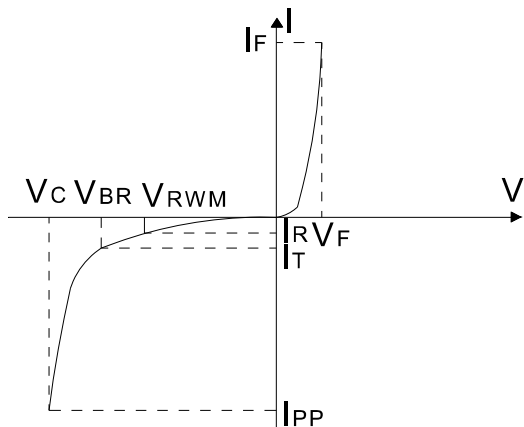


FIG.2: Pulse waveform (8/20 μ s)

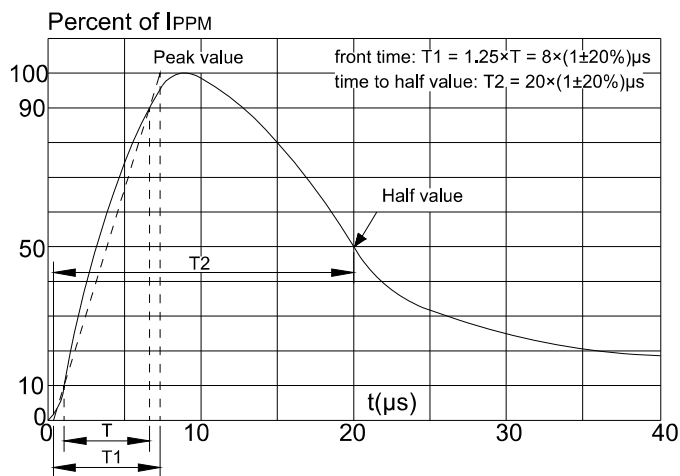


FIG.3: Pulse derating curve

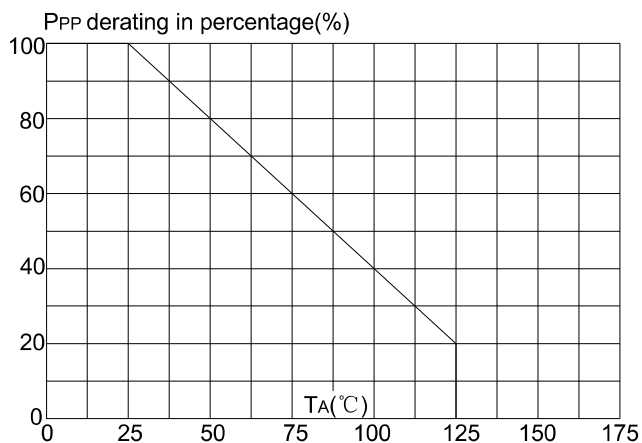
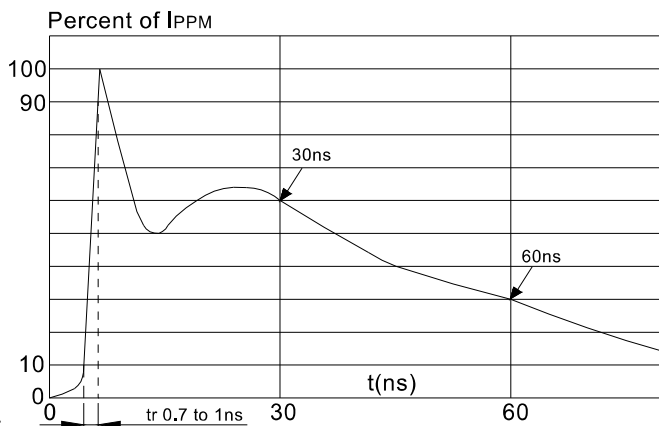
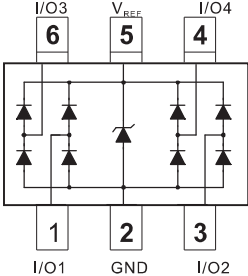
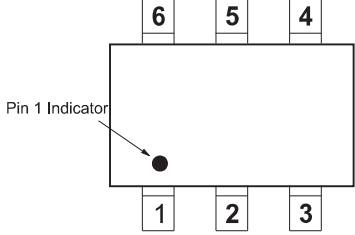
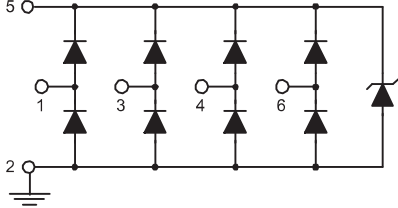


FIG.4: ESD clamping (8KV contact)



Pinning information

Pin Configuration	Simplified outline	Circuit Diagram
		

Marking

Type number	Marking code
ESD054BT36-Q1	5T or 0504S