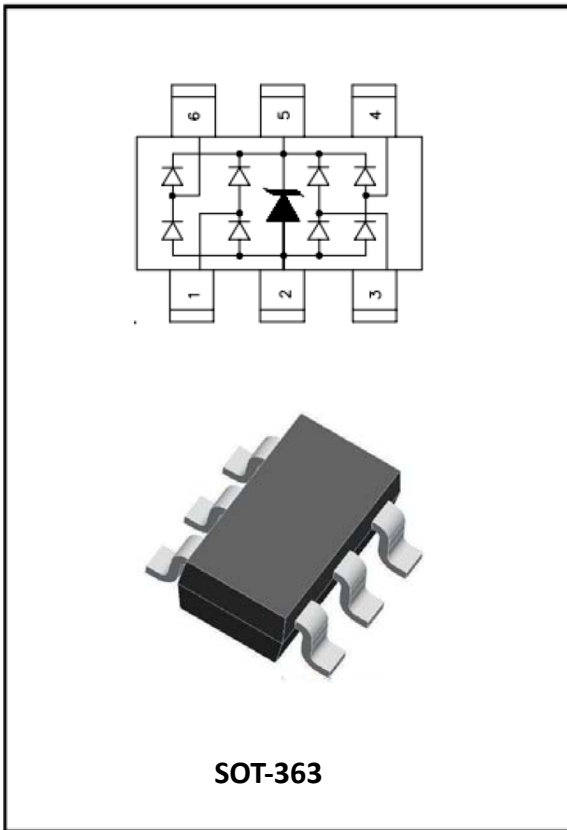


4-Line, Uni-directional, Ultra-low Capacitance, Transient Voltage Suppressor



Features

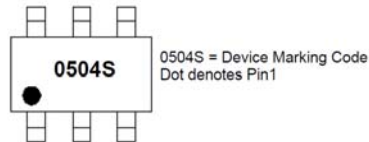
- Stand-off voltage: 5V Max
- Transient protection for each line according to
IEC61000-4-2(ESD): $\pm 20\text{kV}$ (contact)
IEC61000-4-5(surge): 5A (8/20 μs)
- Ultra low capacitance: 0.3pF typical (I/O to I/O)
- Ultra low leakage: nA level
- Low clamping voltage:
- RoHS Compliant

Applications

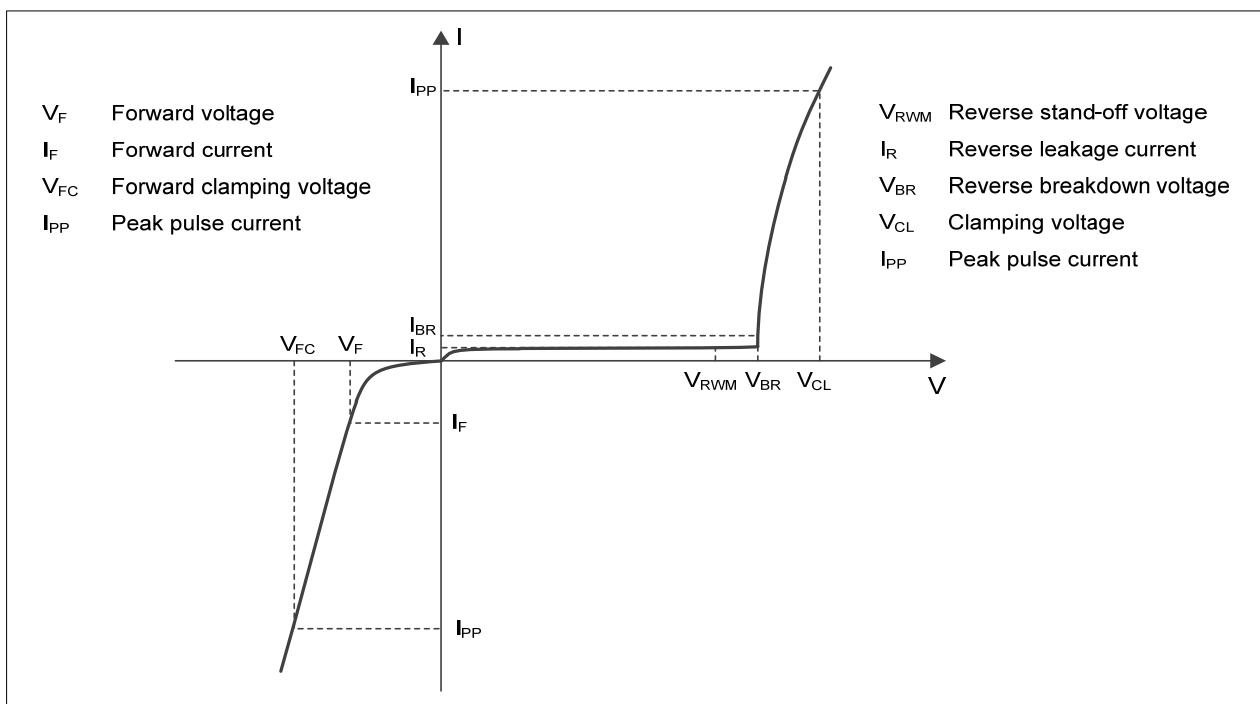
- USB 2.0 and USB 3.0 Ports
- USB OTG
- Digital Visual Interface (DVI)
- Monitor and Flat Panel Displays
- PCI Express and Serial SATA Ports
- Gigabit Ethernet
- IEEE 1394 Firewire Ports
- Consumer products (STB, DVD, DSC, DVC...)

Mechanical Data

- Package: SOT-363
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Moisture Sensitivity: Level 1 per J-STD-020
- Marking Information: See Below



■ Definitions of electrical characteristics





ESDSL0504S3

■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	75	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{pp}	5	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 25	KV
ESD according to IEC61000-4-2 contact discharge		± 20	
Junction temperature	T_J	-55~125	$^{\circ}C$
Storage temperature	T_{STG}	-55~150	$^{\circ}C$

■Electrical Characteristics ($T_a=25^{\circ}C$ Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V	Any I/O pin to ground			5
Reverse leakage current	I_R	μA	$V_{RWM} = 5V$, any I/O pin to ground			0.5
Reverse breakdown voltage	V_{BR}	V	$I_T = 1mA$, any I/O pin to ground	6.0		
Clamping voltage	V_{CL}	V	$I_{PP} = 1A$, $t_p = 8/20\mu s$, any I/O pin to ground			10
		V	$I_{PP} = 5A$, $t_p = 8/20\mu s$, any I/O pin to ground			15
Junction capacitance	CJ	pF	$V_R = 0V$, $f = 1MHz$, Any I/O pin to GND			0.8
			$V_R = 0V$, $f = 1MHz$, Between any I/O pin		0.3	0.4

Note: I/O pins are Pin 1, 3, 4 and 6

■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDSL0504S3	F2	Approximate 9	3000	30000	120000	7 reel



■ Characteristics (Typical)

Fig.1 8/20 μ s waveform per IEC61000-4-5

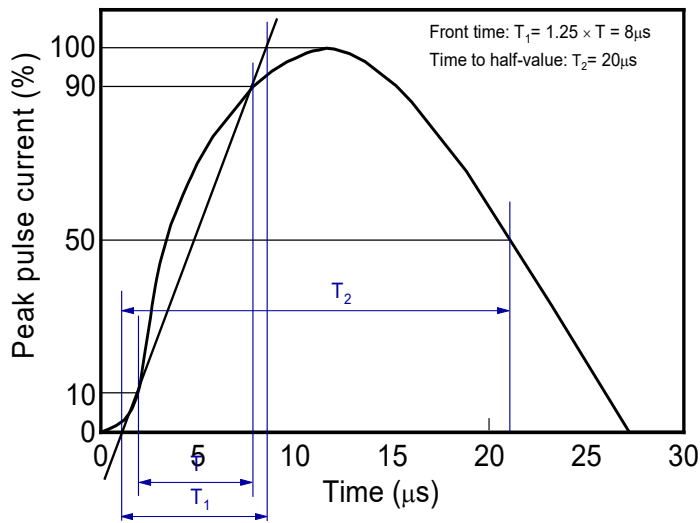


Fig.2 Contact discharge current waveform per IEC61000-4-2

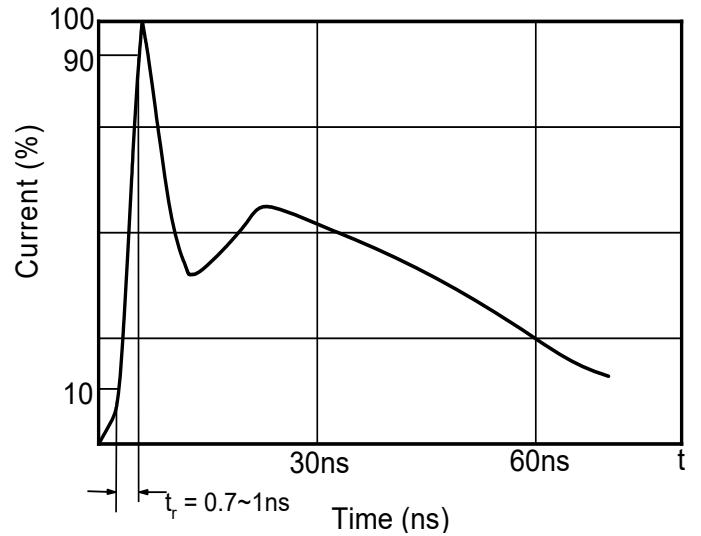


Fig.3 Clamping voltage vs. Peak pulse current

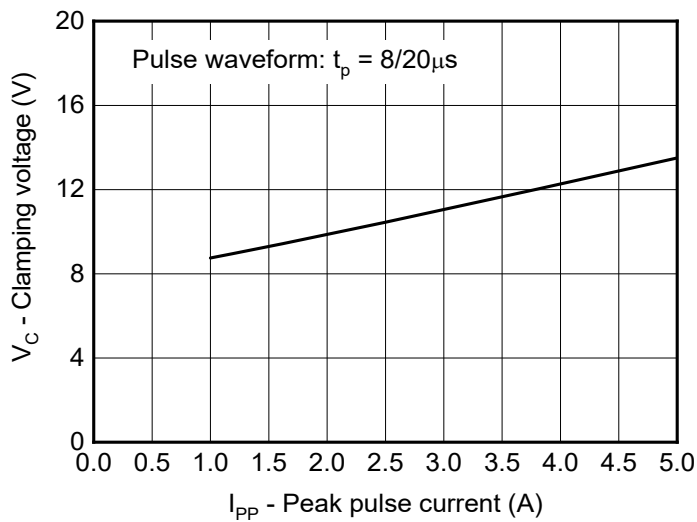


Fig.4 Capacitance vs. Reverse voltage

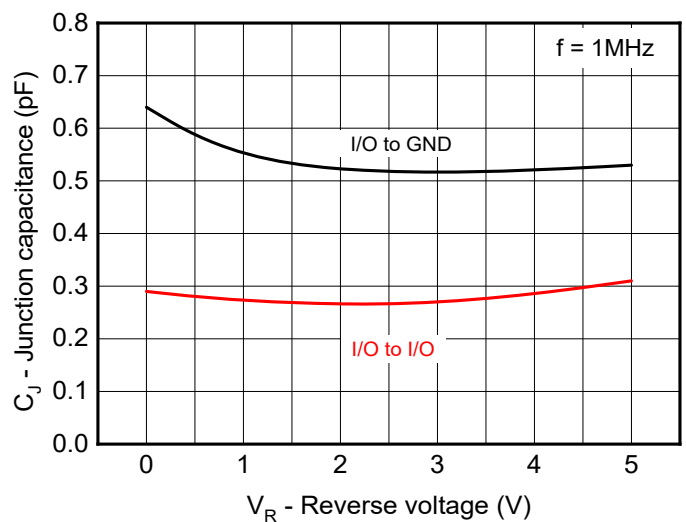


Fig.5 Non-repetitive peak pulse power vs. Pulse time

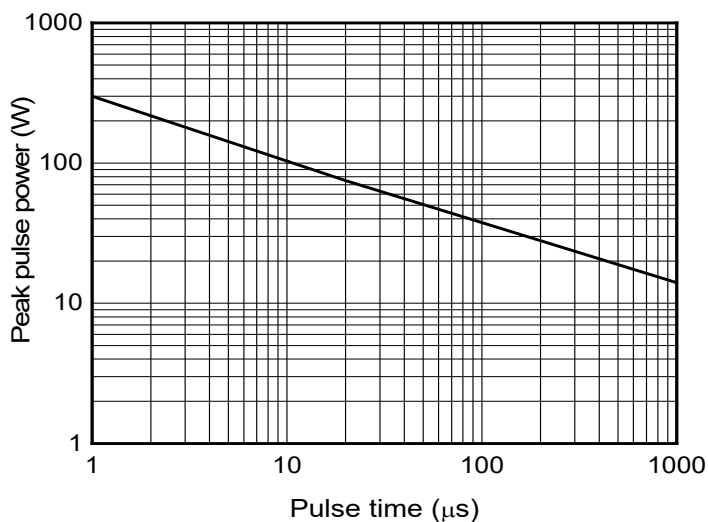
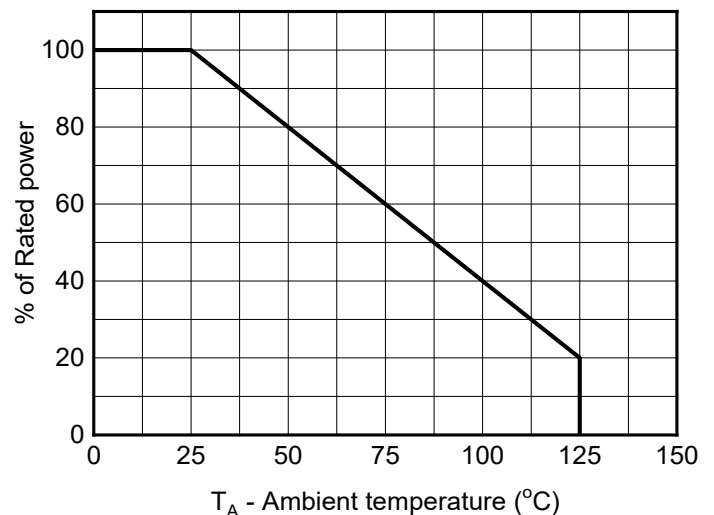


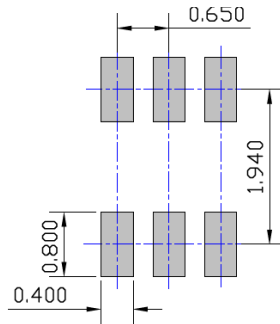
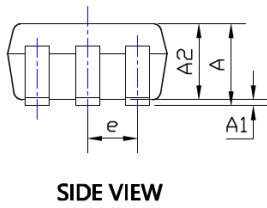
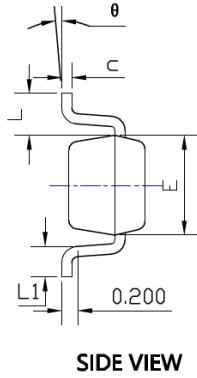
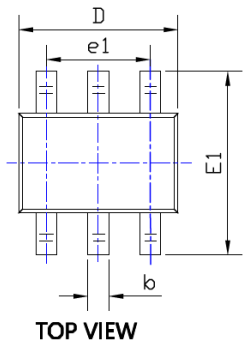
Fig.6 Power derating vs. Ambient temperature





ESDSL0504S3

■ Outline Dimensions



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.014	0.150	0.350
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026TYP		0.650TYP	
e1	0.047	0.055	1.200	1.400
L	0.021REF		0.525REF	
L1	0.010	0.018	0.260	0.460
theta	0°	8°	0°	8°

NOTE:

1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
2. TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
3. THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.



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