



DWESD0504F ESD Protection Diode

Feature

- Uni-directional ESD protection of four lines
- 60Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 5V
- Junction Capacitance: 0.2pF(Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 $\pm 20kV$ contact $\pm 25kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)

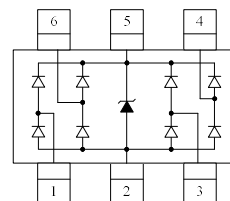
Application

- Serial ATA
- MDDI Ports
- USB 2.0/3.0 Power and Data Line Protection
- Display Ports
- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interfaces (DVI)

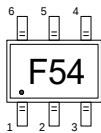
Mechanical Data

- Package: SOT-363
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	QTY per Reel	Reel Size
DWESD0504F	SOT-363		3000 pcs	7 inches



Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (8/20 μs)	60	W
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	± 25 ± 20	kV
T_{OPT}	Operating Temperature	-55/+125	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	-55/+150	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage	Any I/O pin to GND			5.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1\text{mA}$ Any I/O pin to GND	6.0		9.0	V
I_R	Reverse Leakage Current	$V_{RWM} = 5\text{V}$ Any I/O pin to GND			1.0	μA
V_C	Clamping Voltage	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$ Any I/O pin to GND			10	V
		$I_{PP} = 4\text{A}$, $t_p = 8/20\mu\text{s}$ Any I/O pin to GND			15	V
		$I_{PP} = 8\text{A}$, $t_p = 8/20\mu\text{s}$ V_{CC} pin to GND			15	V
C_{ESD}	Parasitic Capacitance	$V_R = 0\text{V}$, $f = 1\text{MHz}$ Between I/O and I/O		0.20	0.30	pF
		$V_R = 0\text{V}$, $f = 1\text{MHz}$ Between I/O and GND		0.45	0.50	pF
		$V_R = 0\text{V}$, $f = 1\text{MHz}$ Between V_{CC} and GND		0.80		pF

Note: I/O Pins are pin 1,3,4,6. Pin 5 is V_{CC} . Pin 2 is GND.



Typical Characteristics

Fig 1 Power Derating Curve

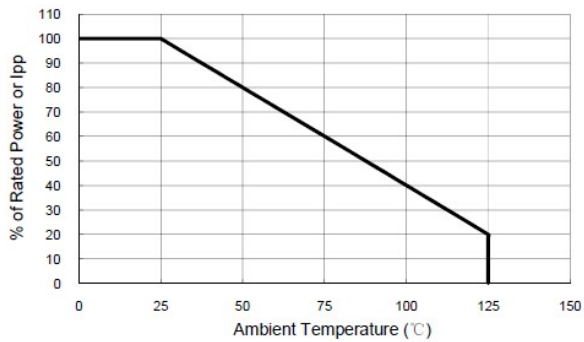


Fig 2 Clamping Voltage vs Peak Pulse Current

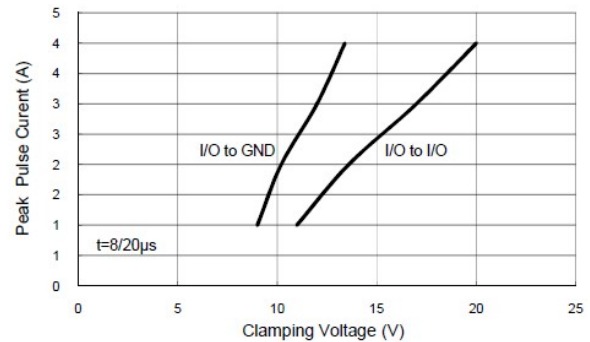


Fig 3 Voltage Sweeping of I/O to I/O

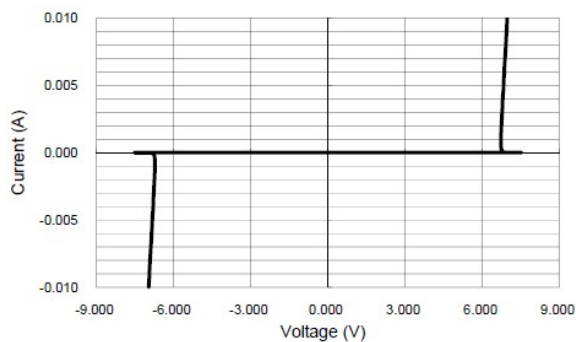
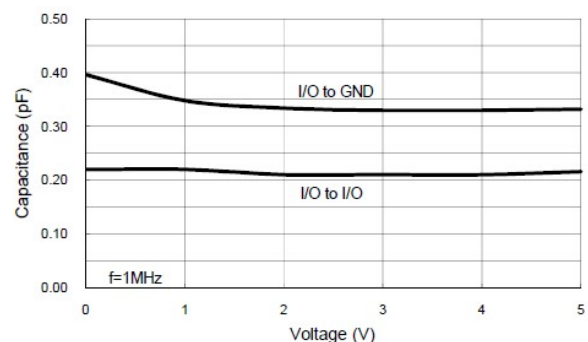
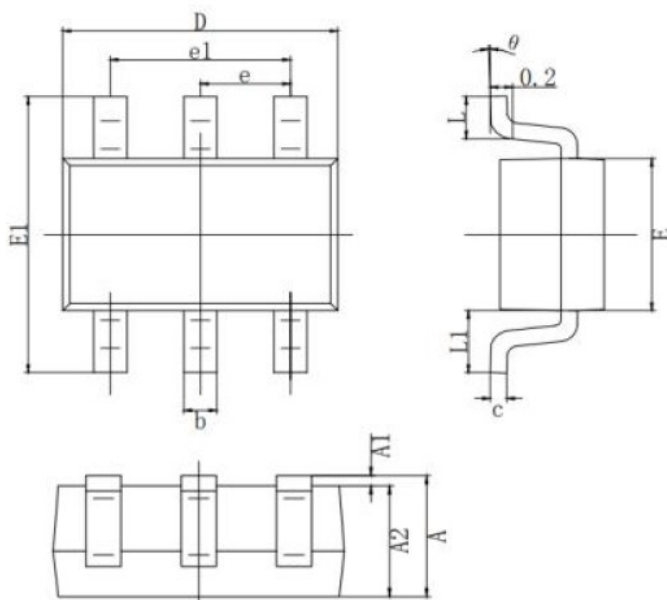


Fig 4 Voltage vs Capacitance





SOT-363 Outline Drawing



SYMBOL	MILLIMETER	
	MIN	MAX
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
c	0.080	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.450
e	0.650 TYP.	
e1	1.200	1.400
L	0.525 REF.	
L1	0.260	0.460
θ	0°	8°