

$V_{WM} = 5V, 3pF$ ESD Protection Array

FEATURES

- Meet IEC61000-4-2(ESD) $\pm 15kV$ (air) , $\pm 8kV$ (contact)
- Working Voltage: 5V
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

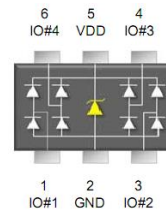
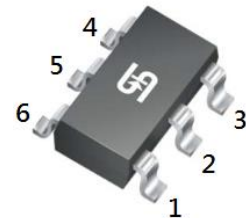
APPLICATIONS

- Digital Visual Interface(DVI)
- 10/100/1000 Ethernet
- Projection TV Monitors and Flat Panel Displays

MECHANICAL DATA

- Case: SOT-363
- Molding compound meets UL 94 V-0 flammability rating
- Moisture sensitivity level: level 1, per J-STD-020
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: As marked
- Weight: 6.99mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
P_{PPSM}	150	W
I_{PP}	6	A
V_{WM}	5	V
$V_{(BR)}$ at $I_R = 1mA$	6	V
V_C at $I_{PP} = 6A$	25	V
Package	SOT-363	
Configuration	Single die	



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ C$ unless otherwise noted)			
PARAMETER	SYMBOL	TESD5V0V4UCU6	UNIT
Marking code on the device		F54	
Rated random recurring peak Impulse power dissipation ($t_p = 8/20\mu s$ waveform)	P_{PPSM}	150	W
Peak impulse current ($t_p = 8/20\mu s$ waveform)	I_{PP}	6	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 15	kV
ESD per IEC 61000-4-2 (Contact)		± 8	
Junction temperature range	T_J	-55 to +150	$^\circ C$
Storage temperature range	T_{STG}	-55 to +150	$^\circ C$

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Reverse breakdown voltage ⁽¹⁾	$I_R = 1 \text{ mA}$	$V_{(BR)}$	6	-	-	V
Rated working standoff voltage		V_{WM}	-	-	5	V
Reverse current ⁽¹⁾	$V_R = 5 \text{ V}$	I_R	-	-	3	μA
Clamping voltage ⁽²⁾	$I_{PP} = 1 \text{ A}$ (any pin to pin 2)	V_C	-	-	15	V
Clamping voltage ⁽²⁾	$I_{PP} = 6 \text{ A}$ (any pin to pin 2)	V_C	-	-	25	V
Junction capacitance	1MHz, $V_R = 0\text{V}$ (between I/O pins)	C_J	-	-	1.5	pF
Junction capacitance	1MHz, $V_R = 0\text{V}$ (any I/O pin to GND)	C_J	-	-	3	pF

Notes:

1. Pulse test with PW = 30ms
2. $t_p = 8/20\mu\text{s}$ waveform

ORDERING INFORMATION		
ORDERING CODE	PACKAGE	PACKING
TESD5V0V4UCU6 RFG	SOT-363	3K / 7" Reel

CHARACTERISTICS CURVES

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

Fig.1 8/20 μs pulse waveform according to IEC 61000-4-5

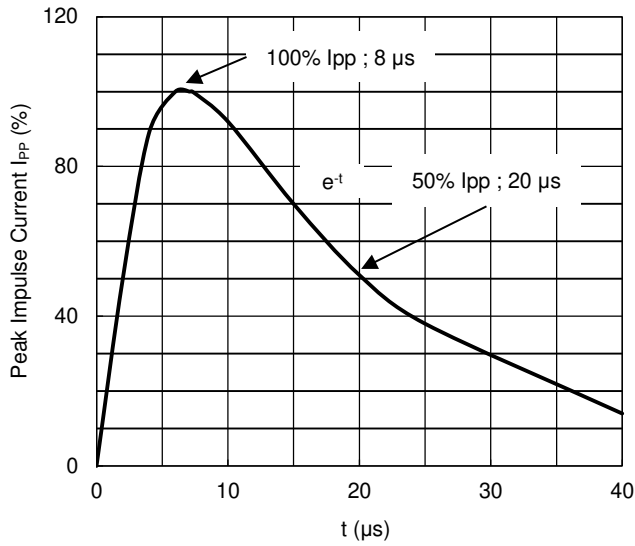


Fig.2 ESD pulse waveform according to IEC 6100-4-2

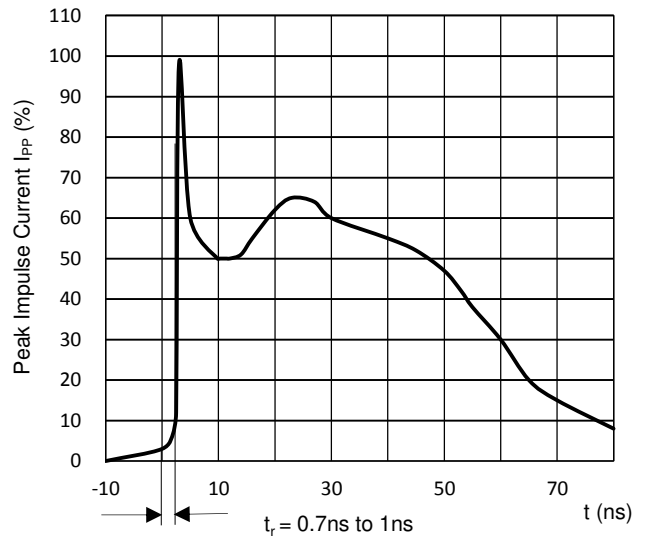


Fig.3 TLP I-V Curve

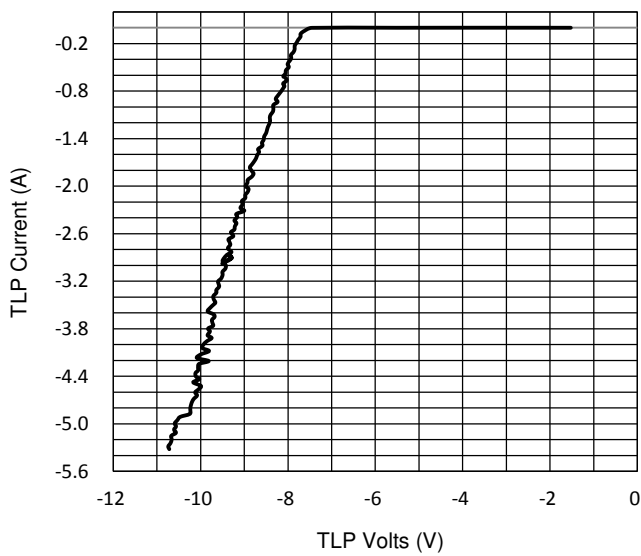
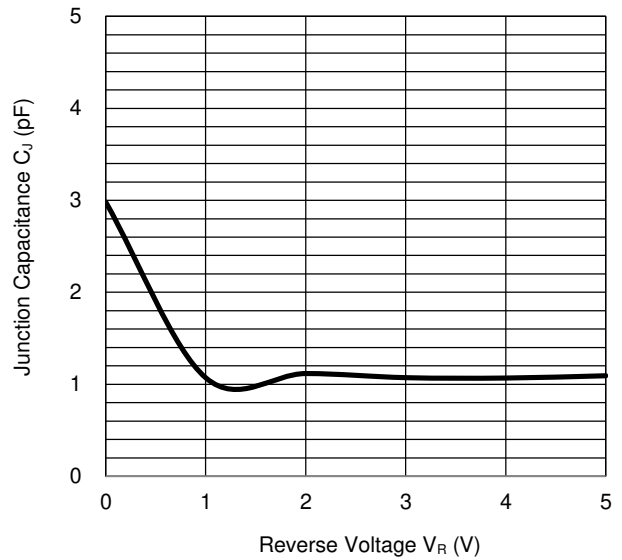


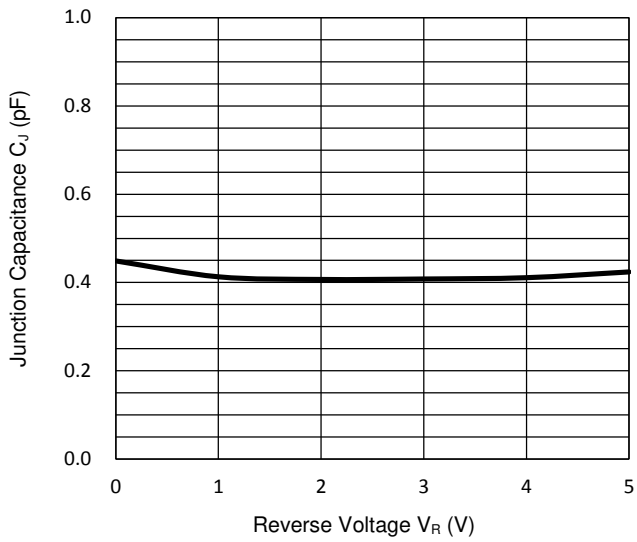
Fig.4 Typical Junction Capacitance (any I/O pin to GND)



CHARACTERISTICS CURVES

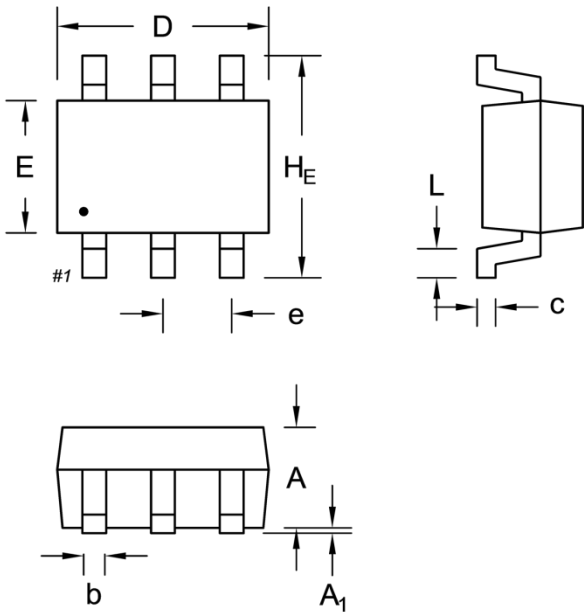
($T_A = 25^\circ\text{C}$ unless otherwise noted)

**Fig.5 Typical Junction Capacitance
(between I/O pins)**



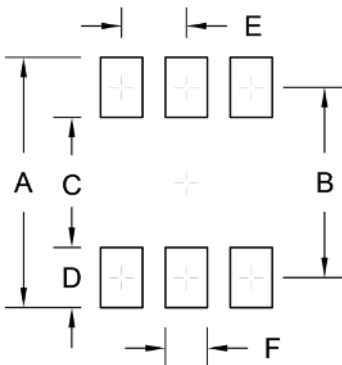
PACKAGE OUTLINE DIMENSIONS

SOT-363



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.90	1.00	0.035	0.039
A ₁	0.00	0.10	0.000	0.004
b	0.15	0.30	0.006	0.012
c	0.10	0.25	0.004	0.010
D	1.80	2.20	0.071	0.087
E	1.15	1.35	0.045	0.053
H _E	2.00	2.20	0.079	0.087
e	0.65 (Ref.)		0.026 (Ref.)	
L	0.15	0.40	0.006	0.016

SUGGESTED PAD LAYOUT

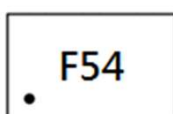


Symbol	Unit (mm)	Unit (inch)
A	2.50	0.098
B	1.90	0.075
C	1.30	0.051
D	0.60	0.024
E	0.65	0.026
F	0.42	0.017

Notes:

This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met.

MARKING DIAGRAM



F54 = Marking Code

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