

## $V_{WM} = 5V$ , 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

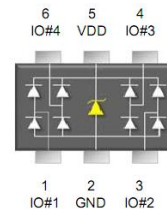
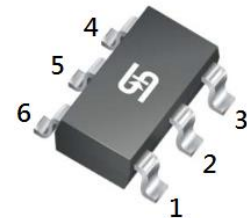
### APPLICATIONS

- 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)	$V_{ESD}$	$\pm 15$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 8$	
Junction temperature range	$T_J$	-55 to +150	$^\circ C$
Storage temperature range	$T_{STG}$	-55 to +150	$^\circ C$

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Reverse breakdown voltage <sup>(1)</sup>	$I_R = 1 \text{ mA}$	$V_{(BR)}$	6	-	-	V
Rated working standoff voltage		$V_{WM}$	-	-	5	V
Reverse current <sup>(1)</sup>	$V_R = 5 \text{ V}$	$I_R$	-	-	3	$\mu\text{A}$
Clamping voltage <sup>(2)</sup>	$I_{PP} = 1 \text{ A}$ (any pin to pin 2)	$V_C$	-	-	15	V
Clamping voltage <sup>(2)</sup>	$I_{PP} = 6 \text{ A}$ (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:**

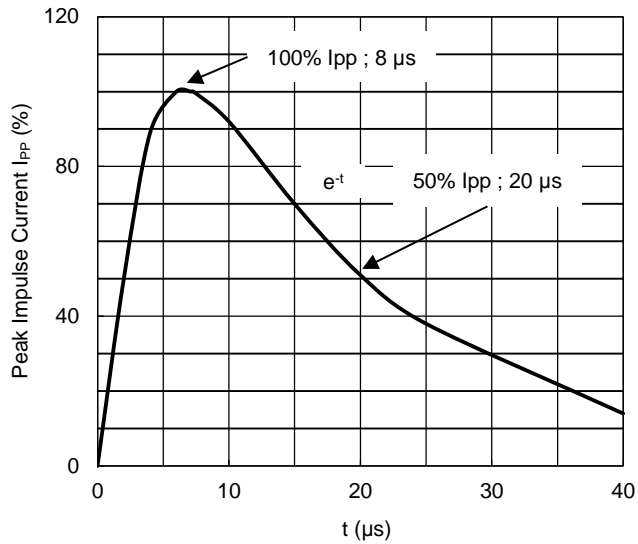
1. Pulse test with  $PW = 30\text{ms}$
2.  $t_p = 8/20\mu\text{s}$  waveform

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

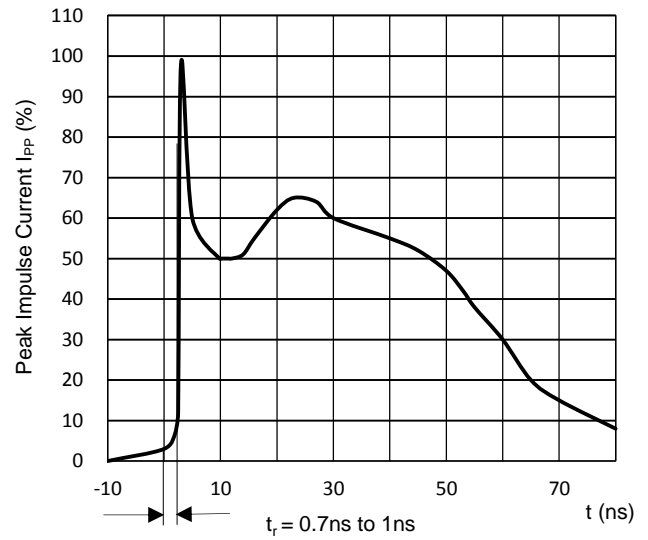
## CHARACTERISTICS CURVES

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

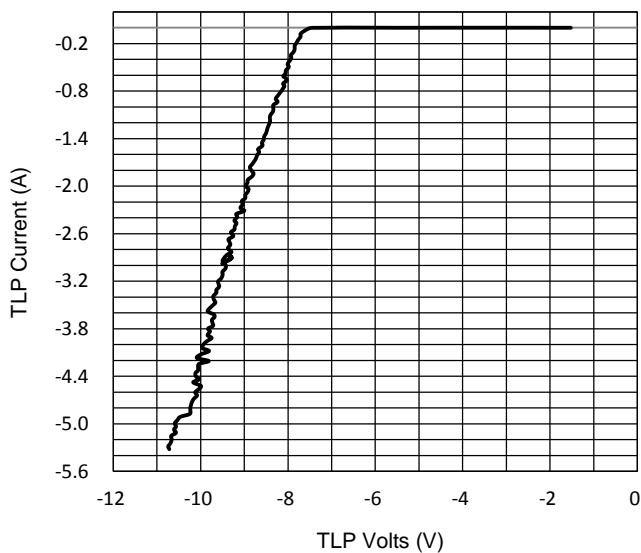
**Fig.1 8/20 $\mu\text{s}$  pulse waveform according to IEC 61000-4-5**



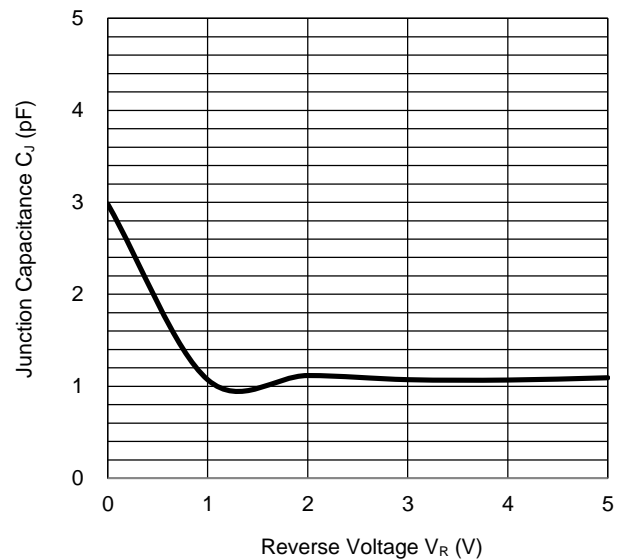
**Fig.2 ESD pulse waveform according to IEC 6100-4-2**



**Fig.3 TLP I-V Curve**



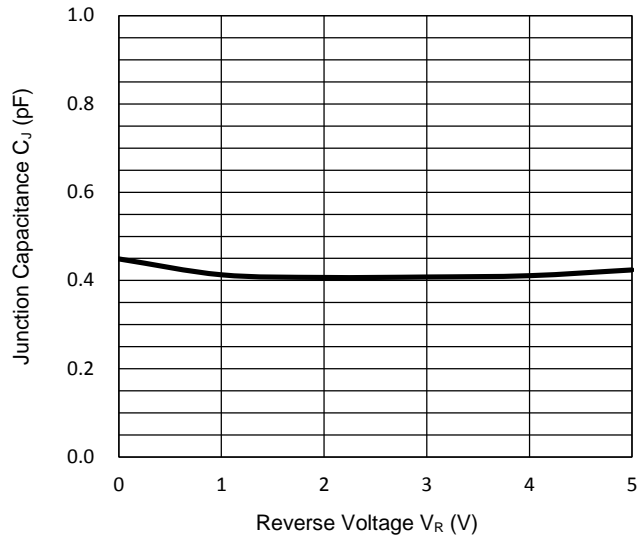
**Fig.4 Typical Junction Capacitance (any I/O pin to GND)**



## CHARACTERISTICS CURVES

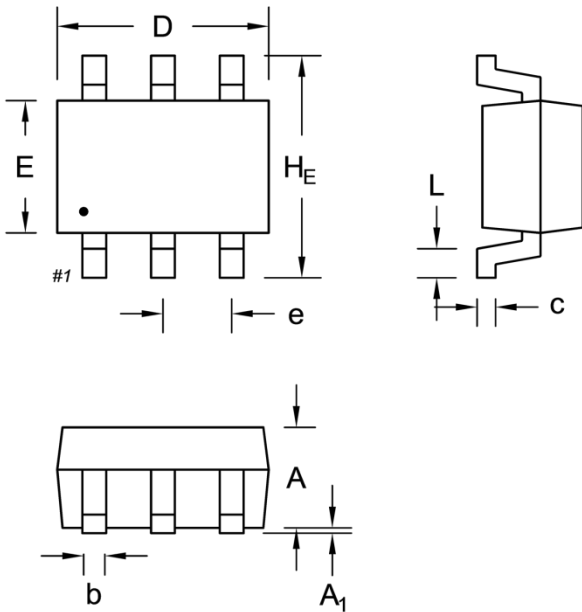
( $T_A = 25^\circ\text{C}$  unless otherwise noted)

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



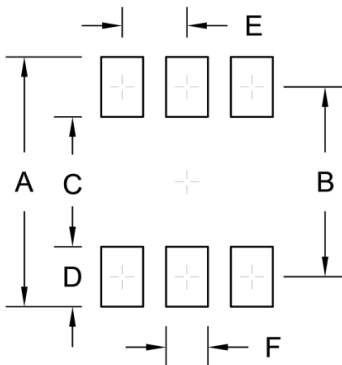
## PACKAGE OUTLINE DIMENSIONS

**SOT-363**



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.90	1.00	0.035	0.039
A <sub>1</sub>	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 <sub>E</sub>	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

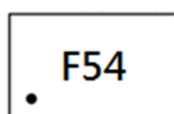


Symbol	Unit (mm)	Unit (inch)
A	2.50	0.098
B	1.90	0.075
C	1.30	0.051
D	0.60	0.024
E	0.65	0.026
F	0.42	0.017

### 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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