TPSE53T10U5.0D

Electrostatic Discharge Protection Device

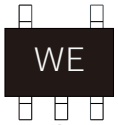
FEATURES

- 81W Peak Pulse Power per Line(tp=8/20us)
- Protects Four Uidireconal I/O Lines
- Low clamping voltage
- Working voltage: 5.0V
- Low leakage current
- Meet AEC-Q101 Requirements

APPLICATIONS

- Cellular handsets & accessories
- Instrumentation
- Cordless phones
- Notebooks & handhelds
- Access Equipment
- Peripherals

SOT-353



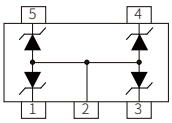
Marking

IEC COMPATIBILITY

- IEC61000-4-2 (ESD) ±20kV (air), ±15kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003



Schematic Symbol

THERMAL CONSIDERATIONS

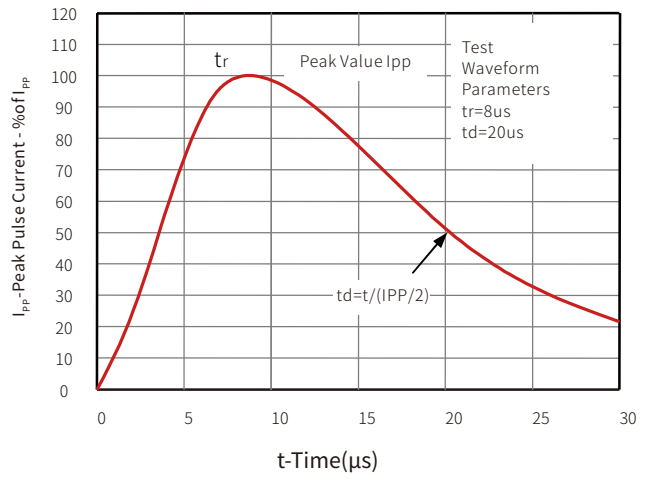
Symbol	Parameter	Value	Unit
P_{pp}	Peak Pulse Power (tp=8/20μs waveform)	81	Watts
T_J	Operating Temperature Range	-55 to +150	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C

ELECTRICAL CHARACTERISTICS

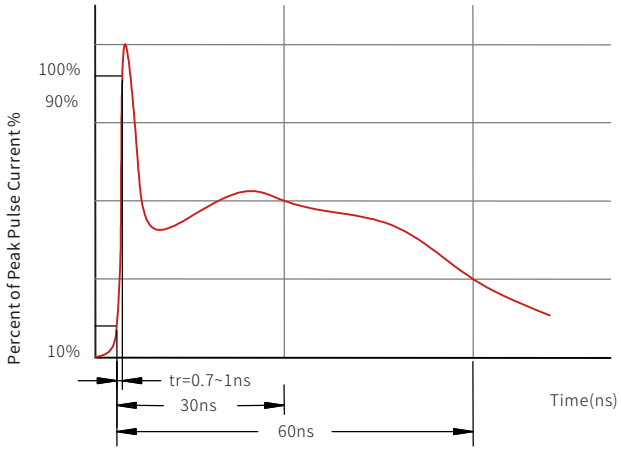
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Stand-off Voltage				5	V
V_{BR}	Reverse Breakdown Voltage	I_T=1mA	6			V
I_R	Reverse Leakage Current	V_{RWM}=5V			1	μA
V_C	Clamping Voltage	I_{PP}=8A,tp=8/20μs		14.6	30	V
I_{PP}	Peak Pulse Current	tp=8/20μs			8	A
C_J	Junction Capacitance	VR = 0V, f = 1MHz		53.5	100	pF

CHARACTERISTIC CURVES

8/20μs Pulse Waveform

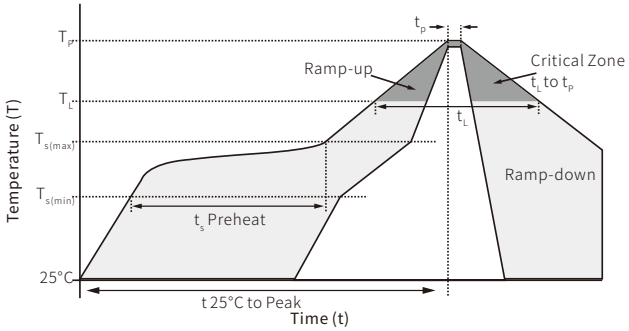


ESD Pulse Waveform (according to IEC 61000-4-2)

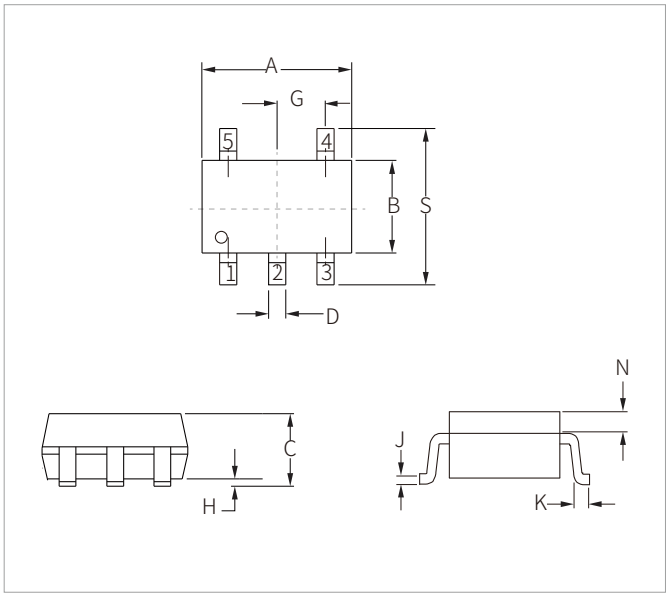


SOLDERING PARAMETERS

Reflow Condition		Lead–free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
	$T_{S(max)}$ to T_L - Ramp-up Rate	3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes max.
Do not exceed		260°C

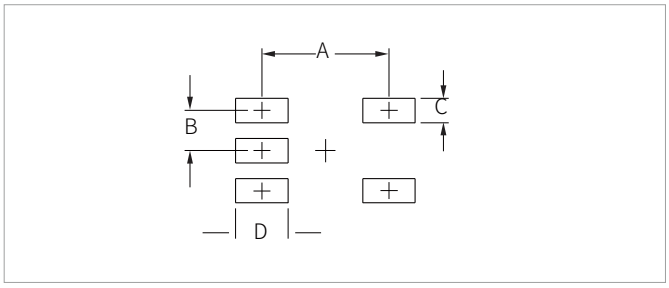


SOT-353 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.80	2.20	0.071	0.087
B	1.10	1.40	0.043	0.055
C	0.80	1.20	0.031	0.047
D	0.10	0.30	0.004	0.012
G	0.65BSC		0.26BSC	
H	--	0.10	--	0.004
J	0.10	0.25	0.004	0.010
K	0.10	0.30	0.004	0.012
N	0.20REF		0.008REF	
S	2.0	2.2	0.079	0.087

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
	NOR	NOR
A	1.90	0.0748
B	0.65	0.025
C	0.40	0.0157
D	0.50	0.0197

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
TPSE53T10U5.0D	SOT-353	3000PCS	7”

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