

Features

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 6A (8/20 μs)
- RoHS Compliant

Mechanical Characteristics

- Package: SOT-143
- Lead Finish: Matte Tin
- UL Flammability Classification Rating 94V-0



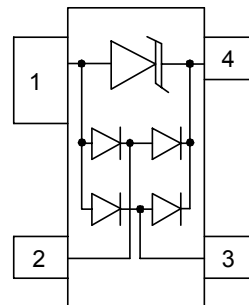
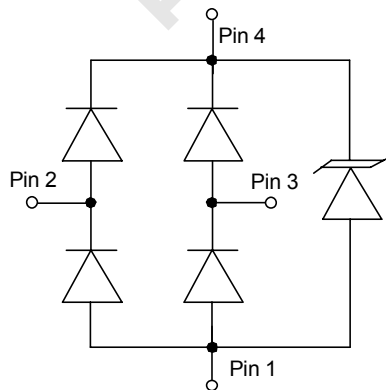
Applications

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

Ordering Information

Part Number	Qty per Reel	Reel Size
TPPRT5V0U2X	3000	7"

Dimensions and Pin Configuration



Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P _{pk}	150	W
Peak Pulse Current (8/20μs)	I _{pp}	6	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V _{ESD}	±30 ±30	kV
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			5	V	
Breakdown Voltage	V _{BR}	6			V	I _T = 1mA
Reverse Leakage Current	I _R			0.1	uA	V _{RWM} = 5V
Clamping Voltage	V _C			15	V	I _{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V _C			25	V	I _{PP} = 6A (8 x 20μs pulse)
Junction Capacitance	C _J		0.3	0.5	pF	V _R = 0V, f = 1MHz, between I/O pins

PROTECTION PRODUCTS
 Typical characteristics

www.sot23.com.tw

Fig1. 8/20 μ s Pulse Waveform

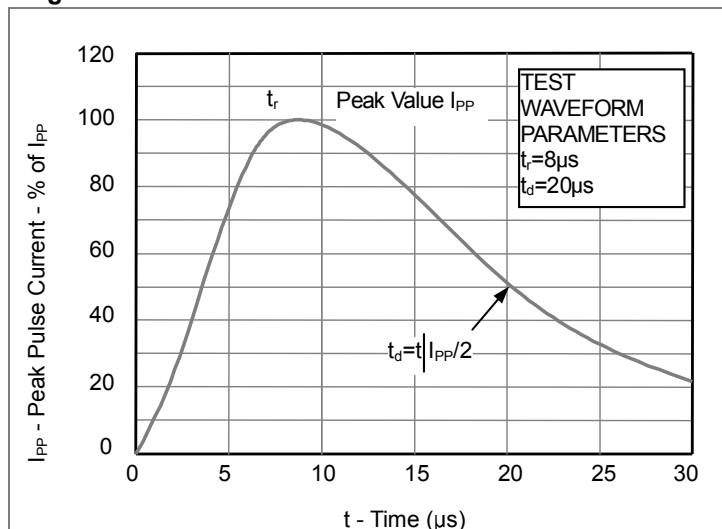


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

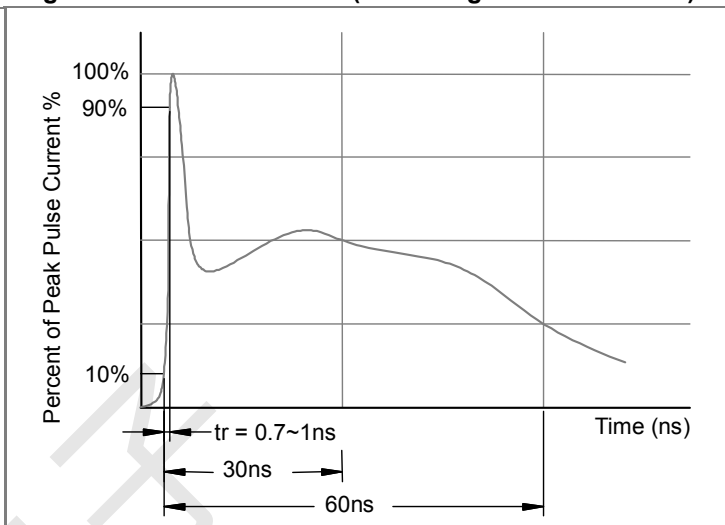
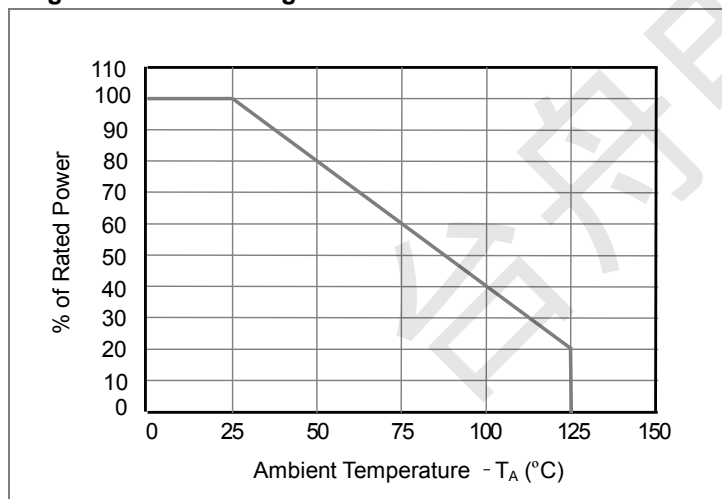
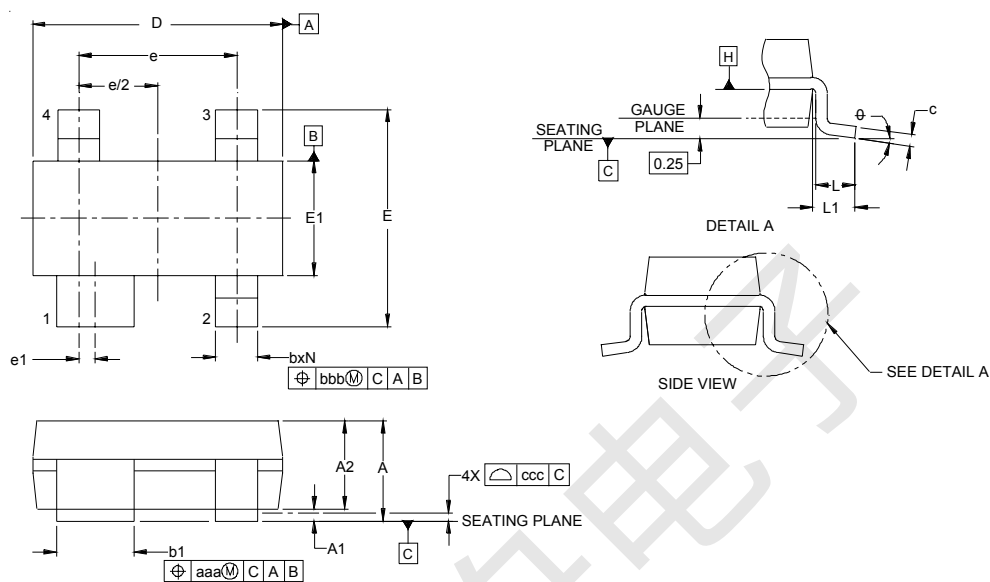


Fig3. Power Derating Curve

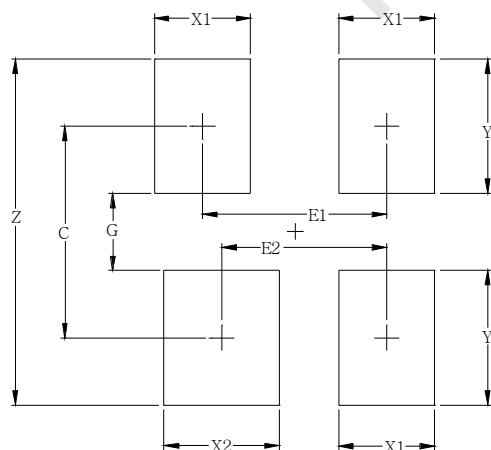


Outline Drawing - SOT-143



DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.031	-	.048	0.80	-	1.22
A1	.000	-	.006	0.013	-	0.15
A2	.029	.035	.042	0.75	0.90	1.07
b	.011	-	.020	0.30	-	0.51
b1	.029	-	.037	0.76	-	0.94
c	.003	-	.008	0.08	-	0.20
D	.110	.114	.120	2.80	2.90	3.04
E	.082	.093	.104	2.10	2.37	2.64
E1	.047	.051	.055	1.20	1.30	1.40
e	.075	-	-	1.92 BSC	-	-
e1	.008	-	-	0.20 BSC	-	-
L	.015	.020	.024	0.40	0.50	0.60
L1	-	(.021)	-	(0.54)	-	-
N	4	-	-	4	-	-
Φ	0°	-	8°	0°	-	8°
aaa	.006	-	-	0.15	-	-
bbb	.008	-	-	0.20	-	-
ccc	.004	-	-	0.10	-	-

Land Pattern -SOT-143



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
C	2.20	0.087
E1	1.92	0.076
E2	1.72	0.068
G	0.80	0.031
X1	1.00	0.039
X2	1.20	0.047
Y	1.40	0.055
Z	3.60	0.141