



Features

- ◆ 150 Watts peak pulse power ($t_p = 8/20\mu s$)
- ◆ Transient protection for high speed data lines to IEC 61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact) IEC 61000-4-4 (EFT) 40A (5/50ns)
- ◆ Working voltages : 5V
- ◆ Protects one bidirectional line or two unidirectional lines
- ◆ Low operating and clamping voltages
- ◆ Solid-state silicon avalanche technology

Ordering Information

Part Number	Qty per Reel	Reel Size
TPET05US3	3000	7"

Mechanical Characteristics

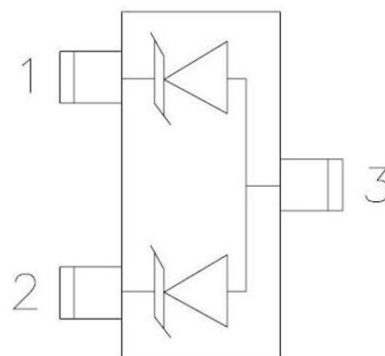
- ◆ Package: SOT23
- ◆ Lead Finish: Matte Tin
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Pb-Free, Halogen Free, RoHS/WEEE Compliant



Applications

- ◆ USB Power & Data Line Protection
- ◆ Monitors and Flat Panel Displays
- ◆ I²C Bus Protection
- ◆ Portable Instrumentation
- ◆ Set Top Box

Dimensions and Pin Configuration



Circuit and Pin Schematic

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

Parameter	Symbol	Value	Unit
Peak Pulse Power(8/20 μs)	Ppk	150	W
ESD per IEC 61000-4-2 (Air)	VESD	± 15	kV
ESD per IEC 61000-4-2 (Contact)		± 8	
Operating Temperature Range	TJ	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^\circ\text{C}$

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

Part Number	V_{RWM}	IDRM	VBR	IR	VC	IPP	VC	IPP	CO
	V	μA	V	mA	V	A	V	A	pF
		MAX	MIN		MAX		MAX		MAX
TPET05US3	5	1	6	1	9.8	1	15	10	98

PROTECTION PRODUCTS
Typical characteristics

Fig1. 8/20 μ s Pulse Waveform

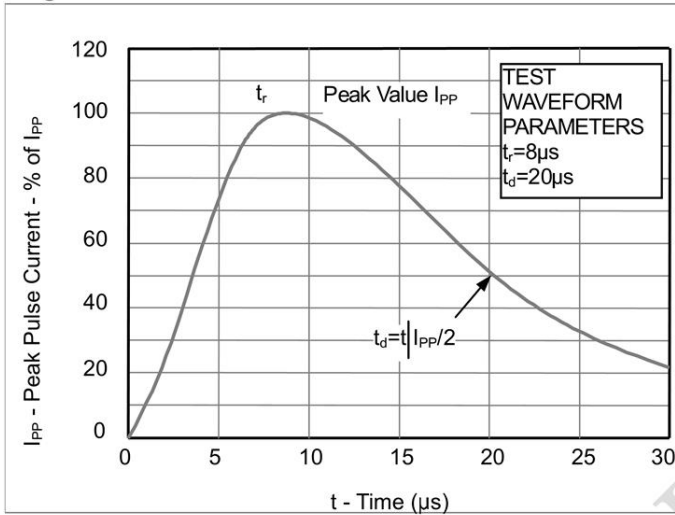


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

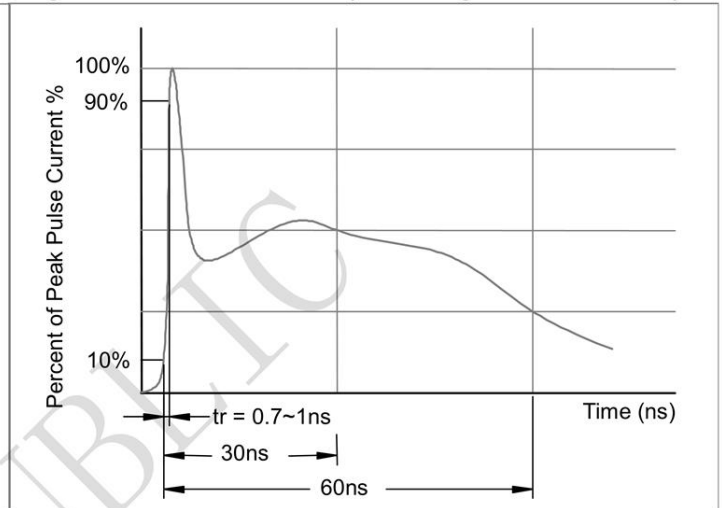
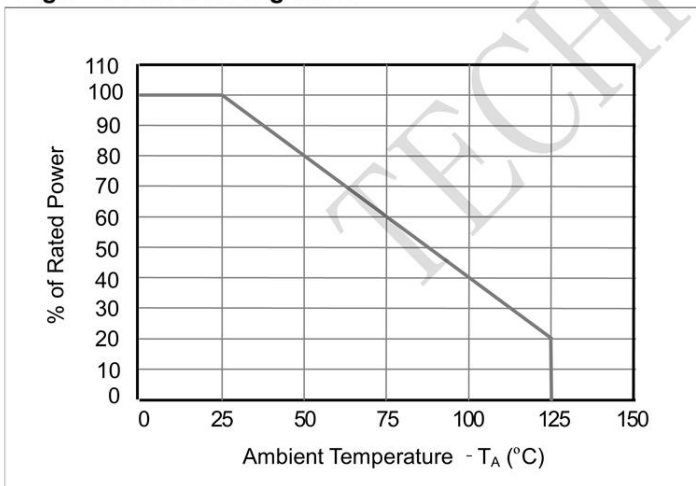
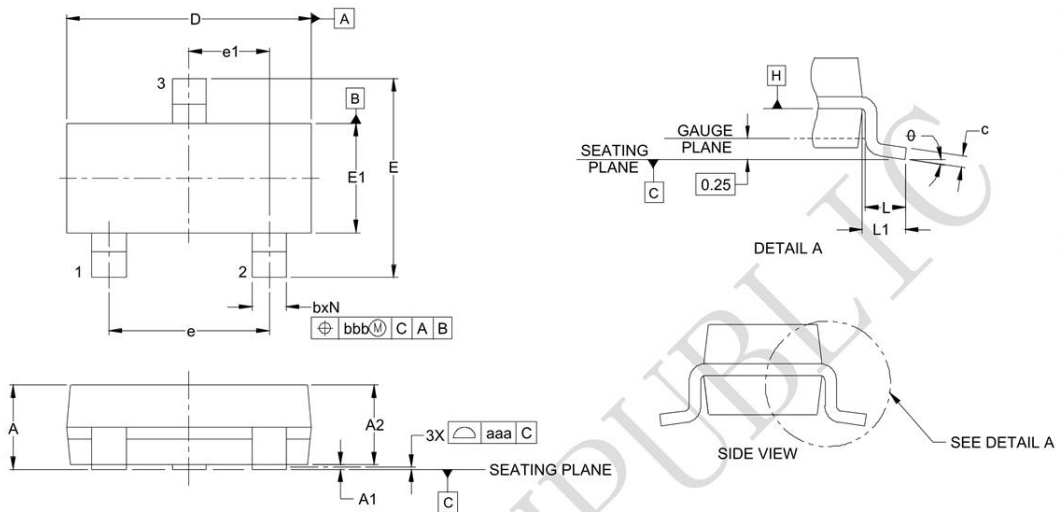


Fig3. Power Derating Curve



Outline Drawing - SOT23



DIM	INCHES		MILLIMETERS	
	MIN	NOM	MAX	MIN NOM MAX
A	.035	-	.044	0.89 - 1.12
A1	.000	-	.004	0.01 - 0.10
A2	.035	.037	.040	0.88 0.95 1.02
b	.012	-	.020	0.30 - 0.51
c	.003	-	.007	0.08 - 0.18
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	-	-	1.90 BSC
e1	.037	-	-	0.95 BSC
L	.015	.020	.024	0.40 0.50 0.60
L1	.022	-	-	(0.55)
N	3	-	-	3
θ	0°	-	8°	0° - 8°
aaa	.004	-	-	0.10
bbb	.008	-	-	0.20

Land Pattern - SOT23

