

### Features

- Low capacitance: 12pF
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- Up to 6 lines protects
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±15kV
    - Contact discharge: ±8kV
- RoHS Compliant

### Mechanical Characteristics

- Package: MSOP-8
- Lead Finish: Matte Tin
- UL Flammability Classification Rating 94V-0
- Pb-Free, Halogen Free, RoHS/WEEE Compliant



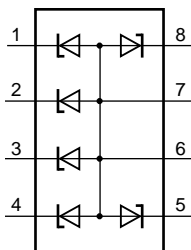
### Applications

- Computers and peripherals
- Communication systems
- Audio and video equipment
- High speed data lines
- Parallel ports

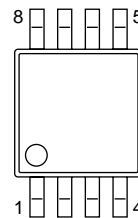
### Ordering Information

Part Number	Qty per Reel	Reel Size
TPE05F6M8	2500	13"

### Circuit Diagram



### Pin Configuration



### Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)

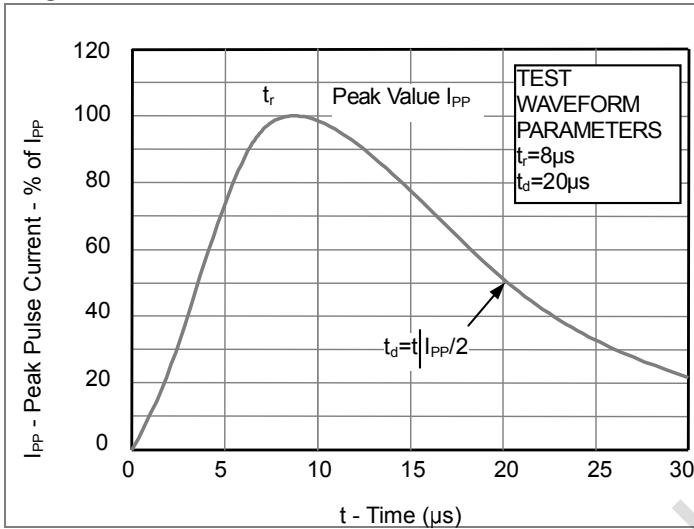
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P <sub>pk</sub>	30	W
Peak Pulse Current (8/20μs)	I <sub>PP</sub>	2.2	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	±15	kV
ESD per IEC 61000-4-2 (Contact)		±8	
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C

### Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)

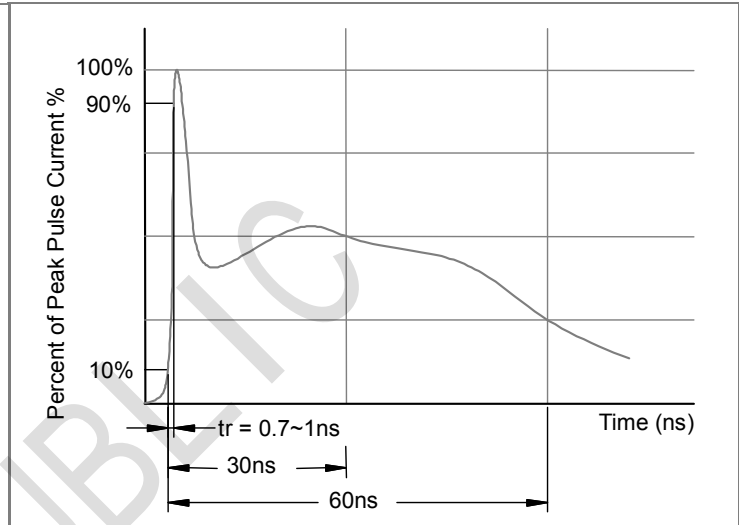
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V <sub>RWM</sub>			5	V	
Breakdown Voltage	V <sub>BR</sub>	6			V	I <sub>T</sub> = 1mA, any I/O to GND
Reverse Leakage Current	I <sub>R</sub>			0.02	μA	V <sub>RWM</sub> = 5V
Clamping Voltage	V <sub>C</sub>			11	V	I <sub>PP</sub> = 1A (8 x 20μs pulse)
Clamping Voltage	V <sub>C</sub>			14	V	I <sub>PP</sub> = 2A (8 x 20μs pulse)
Junction Capacitance	C <sub>J</sub>			12	pF	V <sub>R</sub> = 0V, f = 1MHz, any I/O to GND

**PROTECTION PRODUCTS**  
Typical characteristics

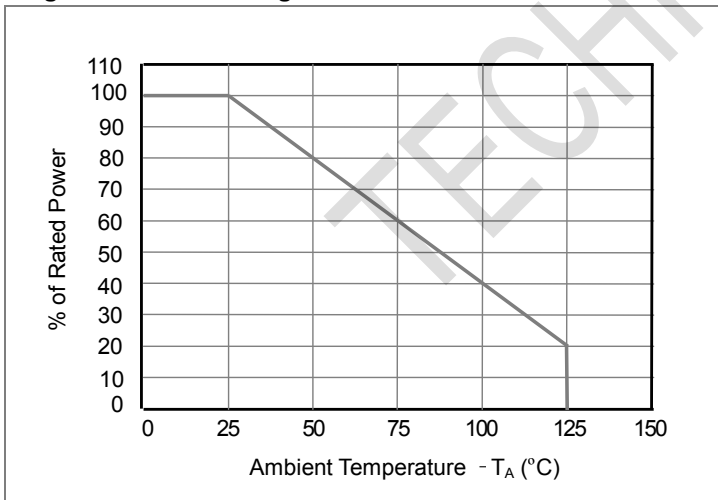
**Fig1. 8/20 $\mu$ s Pulse Waveform**



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

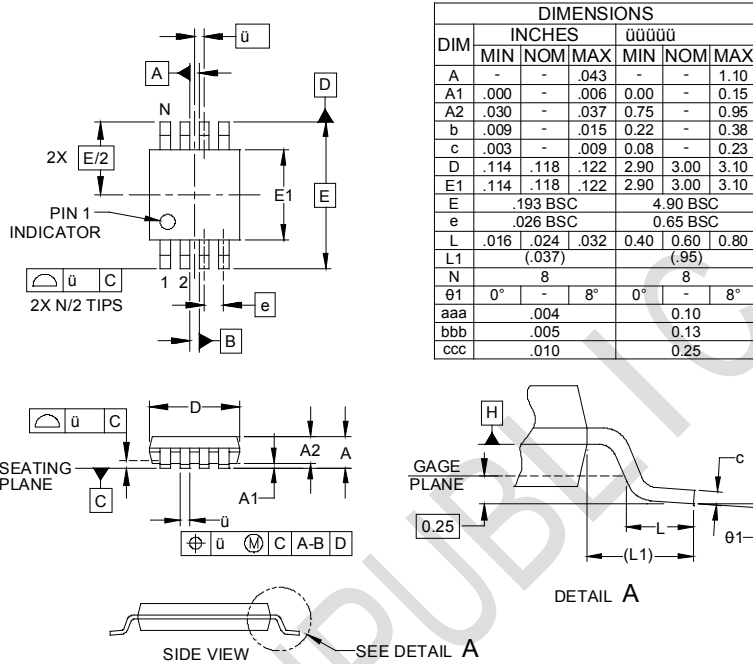


**Fig3. Power Derating Curve**



### Outline Drawing - MSOP-8

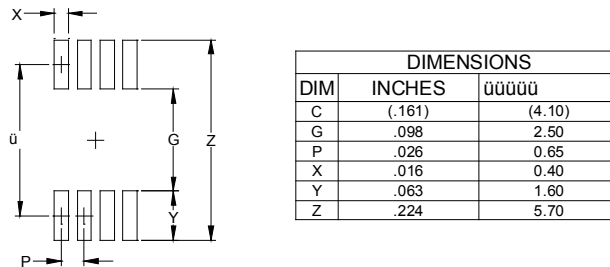
[www.sot23.com.tw](http://www.sot23.com.tw)



**NOTES:**

1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. DATUMS **-A-** AND **-B-** TO BE DETERMINED AT DATUM PLANE **u**
3. DIMENSIONS "E1" AND "D" DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
4. REFERENCE JEDEC STD MO-187, VARIATION AA.

### Land Pattern - MSOP-8



**NOTES:**

1. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY. CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR COMPANY'S MANUFACTURING GUIDELINES ARE MET.