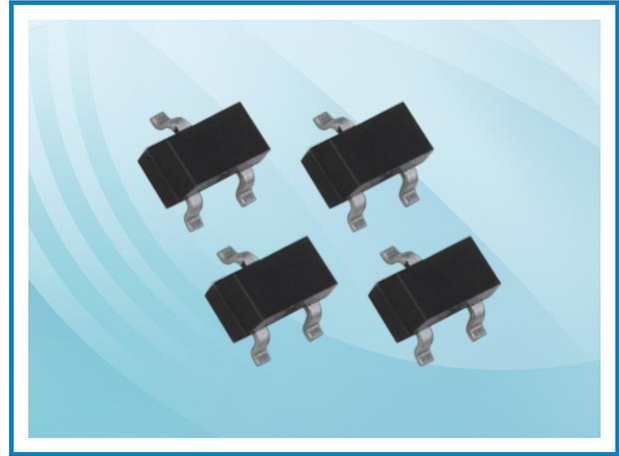


PTUC05M3LC – ESD Protection Diode

Feature

- 45 Watts Peak Pulse Power per Line (tp=8/20 μs)
- Unidirectional configuration
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- IEC61000-4-2 (ESD) ±25 kV (air), ±20 kV (contact)
- IEC61000-4-4 (EFT) 40 A (5/50 ns)
- IEC 61000-4-5 (Lightning) 4.0 A (8/20 μs)



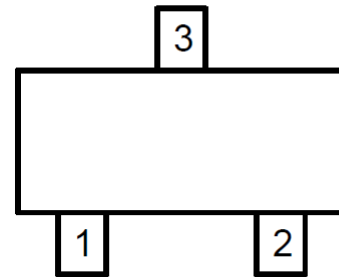
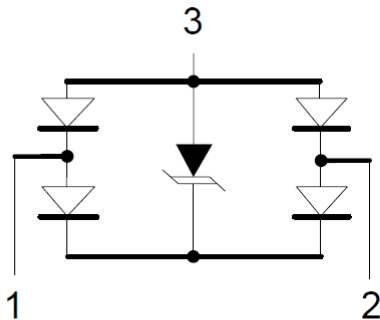
Applications

- Handsets and Accessories
- Personal Digital Assistants (PDA'S)
- Portable Instrumentation
- Notebooks, Desktops, and Servers
- Pagers Peripherals

Mechanical Data

- SC70 package
- Molding compound flammability rating: UL94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

Schematic and PIN Configuration



SC70 (Top View)

Maximum Rating

Parameter	Symbol	Limit	Unit
IEC61000-4-2 ESD Voltage – Air Mode	$V_{ESD}^{(1)}$	±25	kV
IEC61000-4-2 ESD Voltage – Contact Mode		±20	
Peak Pulse Power	$P_{PP}^{(2)}$	45	W
Peak Pulse Current	$I_{PP}^{(2)}$	4.0	A
Maximum Lead Solder Temperature (10 seconds duration)	T_L	260	°C
Junction Temperature	T_J	-55~125	°C
Storage Temperature Range	T_{stg}	-55~125	°C

Note:

1. Device stressed with ten non-repetitive ESD pulses.
2. Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5.
3. All ratings are measured at environmental temperature of $T_A = 25^\circ\text{C}$ unless otherwise noted.

PTUC05M3LC – ESD Protection Diode

Electrical Characteristics (T=25°C)

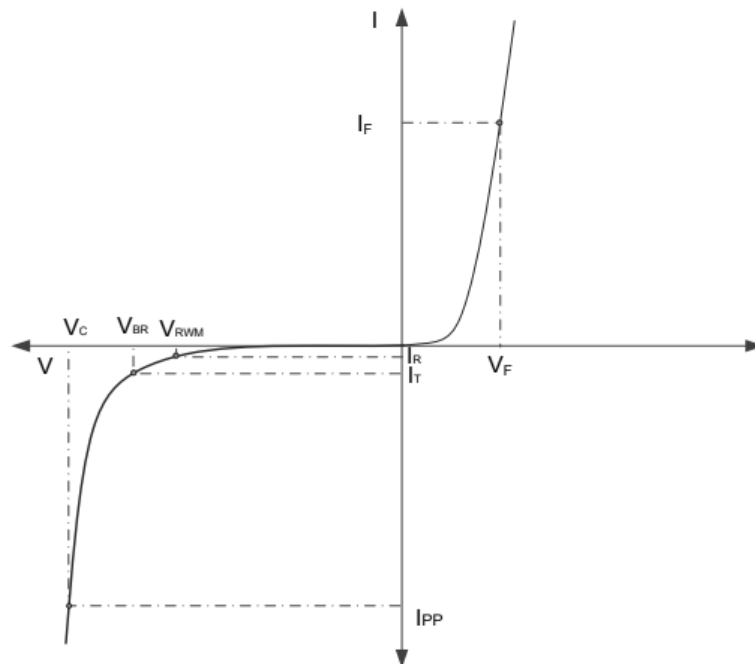
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Stand-off Voltage	$V_{RWM}^{(1)}$				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1 \text{ mA}$	6.0			V
Reverse Leakage Current	I_R	$V_{RWM} = 5 \text{ V}$			0.5	μA
Clamping Voltage	V_C	$I_{PP} = 4.0 \text{ A}$		1.1		V
Junction Capacitance	C_J	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$		0.5		pF

Note:

1. Other voltages available upon request.
2. Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5.
3. All ratings are measured at environmental temperature of $T_A = 25^\circ\text{C}$ unless otherwise noted

Electrical Parameters

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
V_F	Forward Voltage @ I_F



PTUC05M3LC – ESD Protection Diode

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

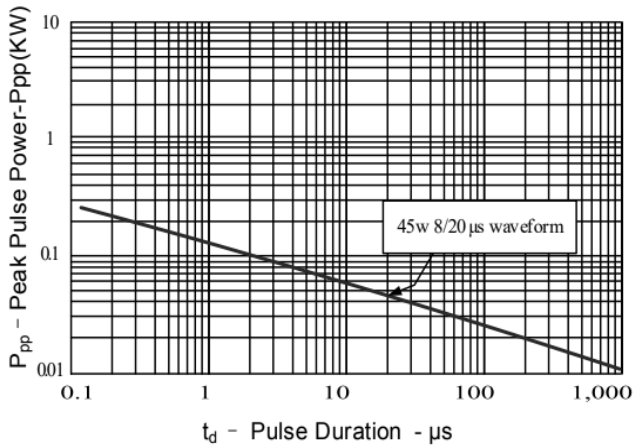


Figure 2: Power Derating Curve

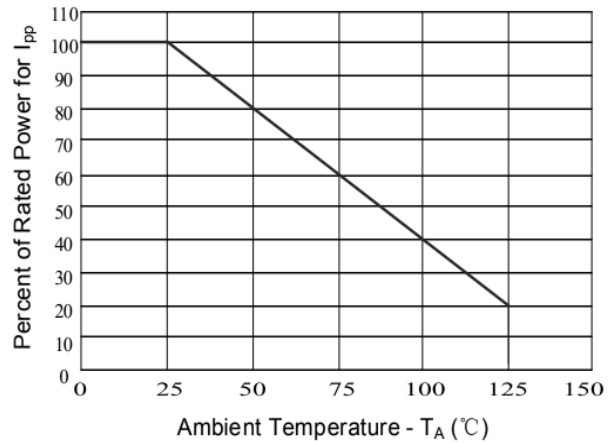


Figure 3: Pulse Waveform

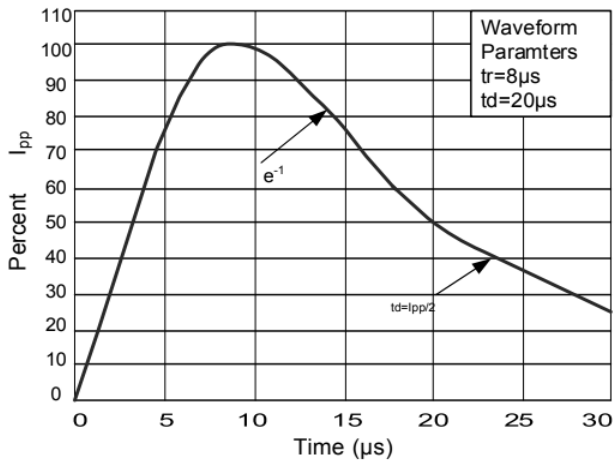
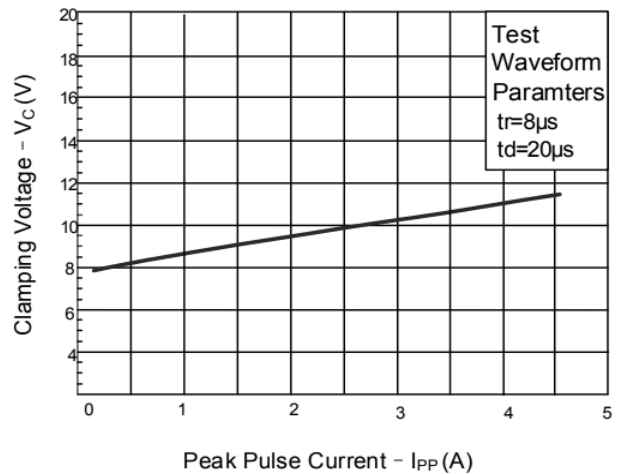
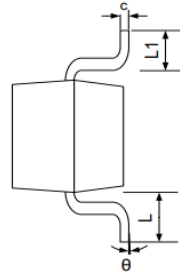
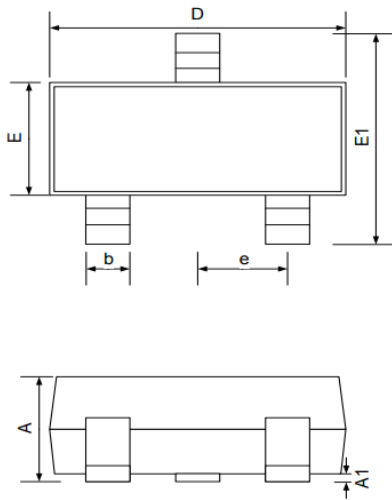


Figure 4: Clamping Voltage vs. Ipp



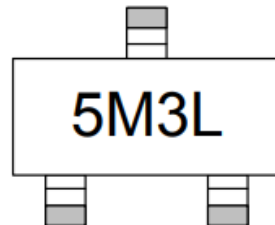
PTUC05M3LC – ESD Protection Diode

SC70 Package Outline Dimensions



Symbol	Dimensions (mm)		
	Min	NOM.	Max
A	0.80	1.00	1.10
A1	0.00	0.05	0.10
b	0.20	0.30	0.40
c	0.08	0.12	0.15
D	2.00	2.10	2.20
E	1.15	1.25	1.35
E1	2.15	2.30	2.45
e		0.650 TPY	
L		0.525 REF	
L1	0.26	0.36	0.46
θ	0°	4°	8°

Marking



Packaging Information

Order Code	Packaging	Reel Size	PCS/Reel
PTUC05M3LC	SC70	7 inch	3,000