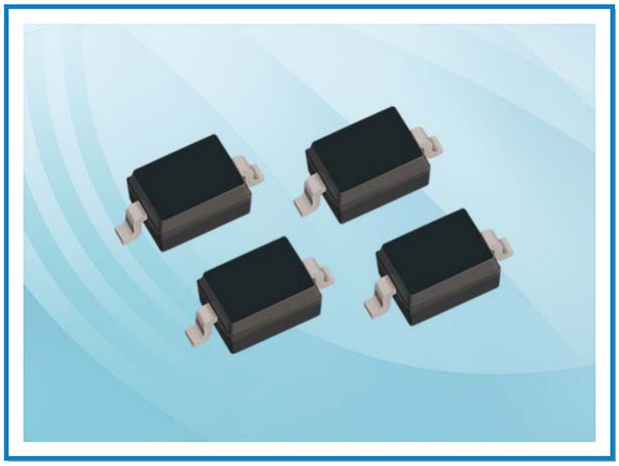
PT05D5BC – ESD Protection Diode

Feature

- 75 Watts peak pulse power (8/20μs)
- Bidirectional configurations
- Solid state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- IEC61000-4-2 (ESD) ±30kV (Air), ±30kV (Contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning): 5A (8/20μs)



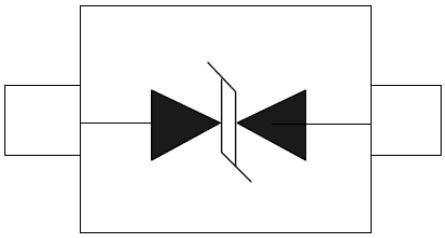
Applications

- Microprocessor based equipment
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Personal Digital Assistant (PDA)
- Pagers Peripherals

Mechanical Data

- SOD523 package
- Molding compound flammability rating: UL94 V-0
- Tape and Reel Packaging
- RoHS/WEEE Compliant

Schematic and PIN Configuration



SOD-523

Maximum Rating

Parameter	Symbol	Limit	Unit
IEC61000-4-2 ESD Voltage – Air Mode	V_{ESD}(1)	±30	kV
IEC61000-4-2 ESD Voltage – Contact Mode		±30	
Peak Pulse Power	P_{PP}(2)	75	W
Peak Pulse Current	I_{PP}(2)	5	A
Maximum Lead Solder Temperature (10 seconds duration)	T_L	260	°C
Junction Temperature	T_J	-55~150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

Note:

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

PT05D5BC – ESD Protection Diode

Electrical Characteristics

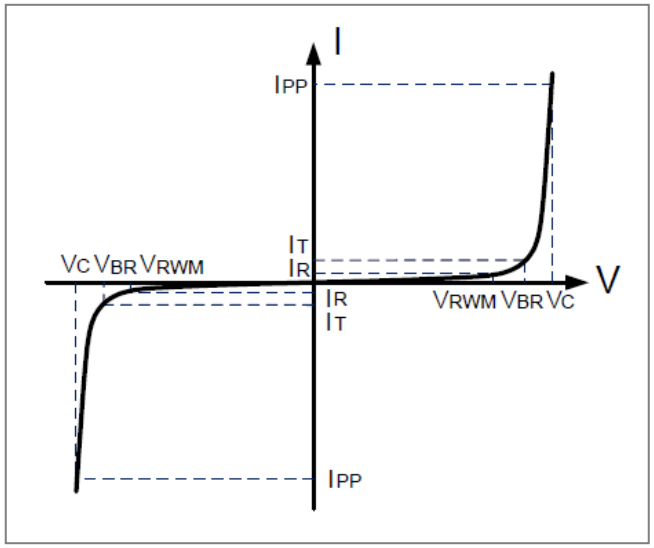
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Stand-off Voltage	V_{RWM}(1)				5.0	V
Reverse Breakdown Voltage	V_{BR}	I_T = 1mA	6.0			V
Reverse Leakage Current	I_R	V_{RWM} = 5V			1	μA
Clamping Voltage	V_C(2)	I_{PP} = 5A			15	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		5	8	pF

Note:

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

Electrical Parameters

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



PT05D5BC – ESD Protection Diode

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

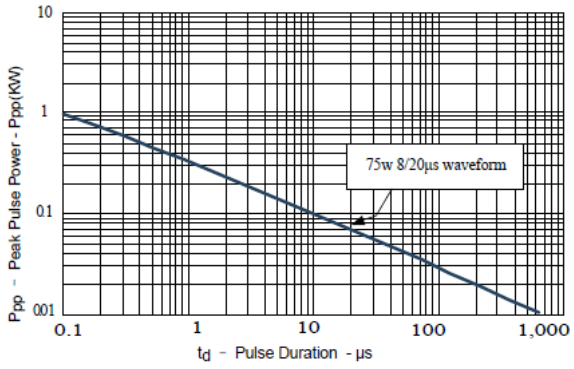


Figure 2: Power Derating Curve

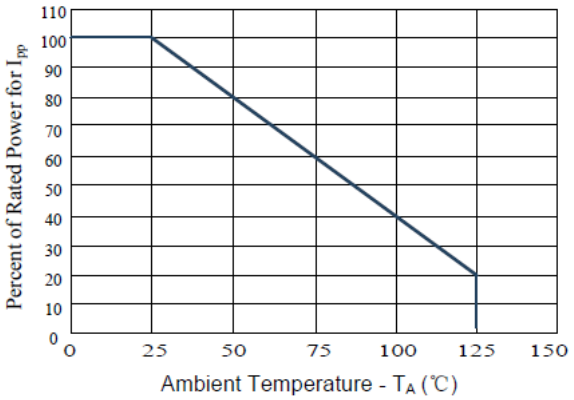


Figure3: Pulse Waveform

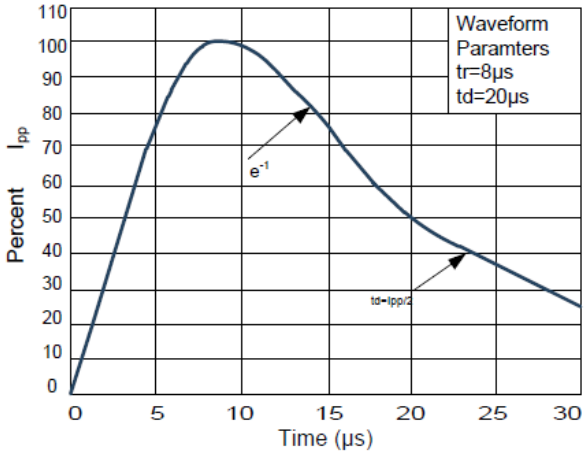
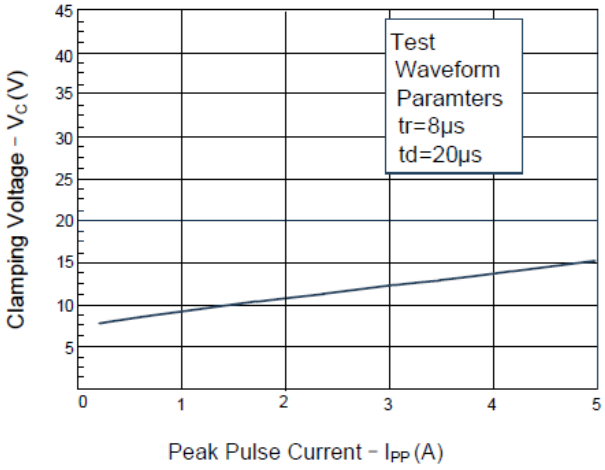
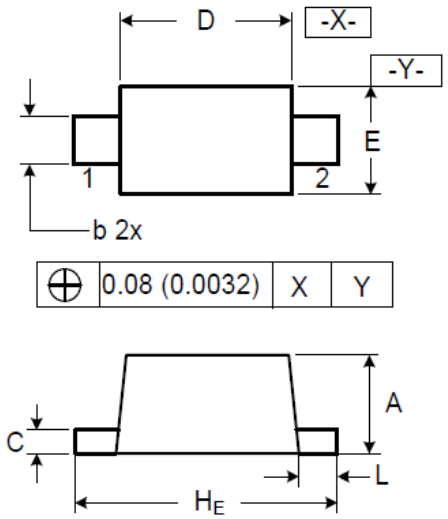


Figure 4: Clamping Voltage vs.Ipp



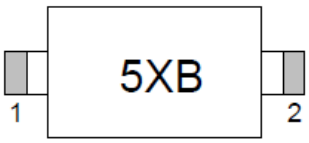
PT05D5BC – ESD Protection Diode

SOD523 Package Outline Dimensions



Symbol	Dimensions (mm)		Dimensions (inch)	
	Min	Max	Min	Max
A	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
C	0.070	0.200	0.0028	0.0079
D	1.100	1.300	0.043	0.051
E	0.700	0.900	0.028	0.035
H_E	1.500	1.700	0.059	0.067
L	0.150	0.250	0.006	0.010

Marking



Packaging Information

Order Code	Packaging	Reel Size	PCS/Reel
PT05D5BC	SOD523	7 inch	5,000

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

PTTC:

SMD1812P075TF/33 AMPA33CA-H ASMDJ26CA SMD0805P002TF SMD1206P010TF SMD1206P020TF/24 SMD1812P014TF SMD1812P020TF SMD1812P075TF S23T24C SHV2920P500-30-AA SMD1206P050TF/15 SMD1812P150TF/24 SMD1812P300SLR/24 SMD1210P010TF SMD1812P050TF/30 SMD1812P110TF/33 PT05D5BC RLD60P160XMF SMD1206P005TF SMD1210P050TF/30 SMD1812P075TF/24