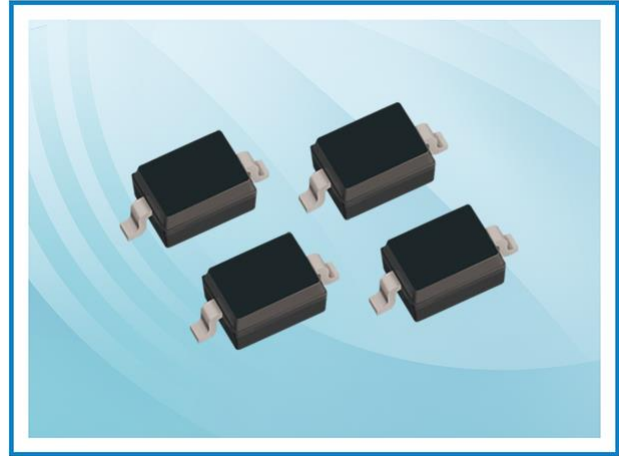


## APTLC24D-B – ESD Protection Diode

### Feature

- 400 Watts peak pulse power (8/20 $\mu$ s)
- Bidirectional configurations
- Protect one power line
- Solid state silicon-avalanche technology
- Low operating voltage
- Low leakage current
- Low Capacitance: 1.0 pF Typical
- IEC61000-4-2 (ESD)  $\pm$ 30kV (Air),  $\pm$ 30kV (Contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning): 9A (8/20 $\mu$ s)
- AEC-Q101 qualified



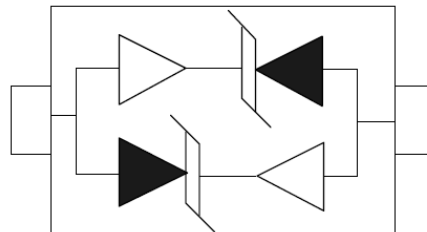
### Applications

- Ethernet - 10/100/1000 Base T
- Cellular Phones
- Handheld - Wireless Systems
- Personal Digital Assistant (PDA)
- USB Interface

### Mechanical Data

- SOD323 package
- Molding compound flammability rating: UL94 V-0
- Tape and Reel Packaging
- RoHS/WEEE Compliant

### Schematic and PIN Configuration



SOD-323

### Maximum Rating

Parameter	Symbol	Limit	Unit
IEC61000-4-2 ESD Voltage – Air Mode	$V_{ESD}^{(1)}$	$\pm$ 30	kV
IEC61000-4-2 ESD Voltage – Contact Mode		$\pm$ 30	
Peak Pulse Power	$P_{PP}^{(2)}$	400	W
Peak Pulse Current	$I_{PP}^{(2)}$	9	A
Maximum Lead Solder Temperature (10 seconds duration)	$T_L$	260	$^{\circ}$ C
Junction Temperature	$T_J$	-55~150	$^{\circ}$ C
Storage Temperature Range	$T_{stg}$	-55~150	$^{\circ}$ C

Note:

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

## APTLC24D-B – ESD Protection Diode

### Electrical Characteristics

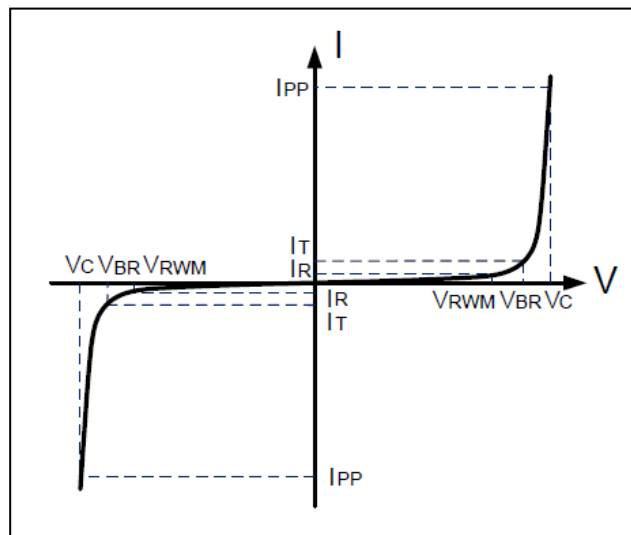
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Stand-off Voltage	$V_{RWM}^{(1)}$				24	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1mA$	25.6			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 24V$			1.0	$\mu A$
Clamping Voltage	$V_C^{(2)}$	$I_{PP} = 9A$		45	50	V
Junction Capacitance	$C_J$	$V_R = 0V, f = 1MHz$		1.0	1.5	pF

Note:

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

### Electrical Parameters

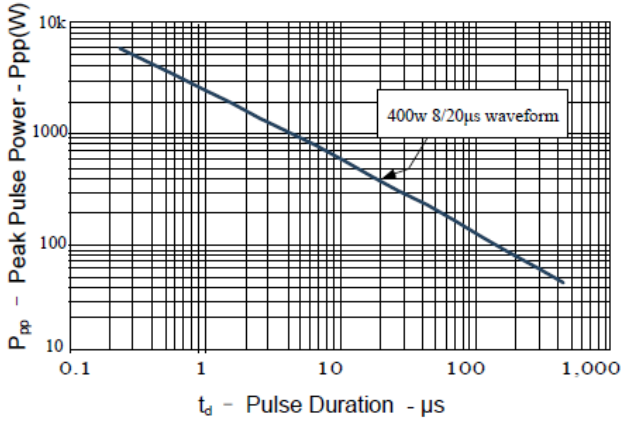
Symbol	Parameter
$V_C$	Clamping Voltage @ $I_{PP}$
$I_{PP}$	Reverse Peak Pulse Current
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{RWM}$	Working Peak Reverse Voltage



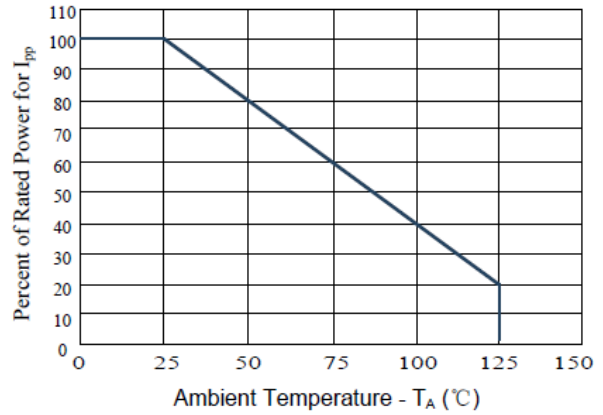
## APTLC24D-B – ESD Protection Diode

### Typical Characteristics

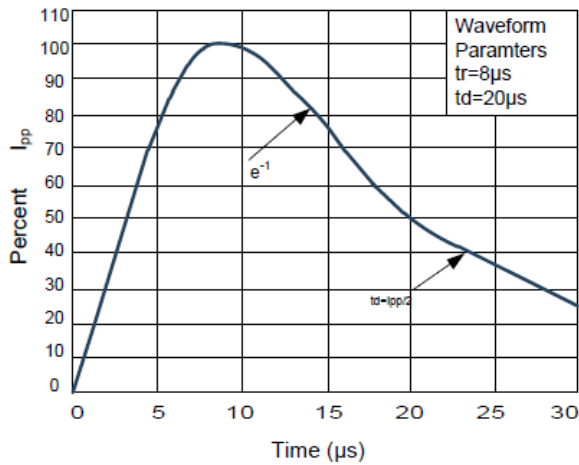
**Figure 1: Peak Pulse Power vs. Pulse Time**



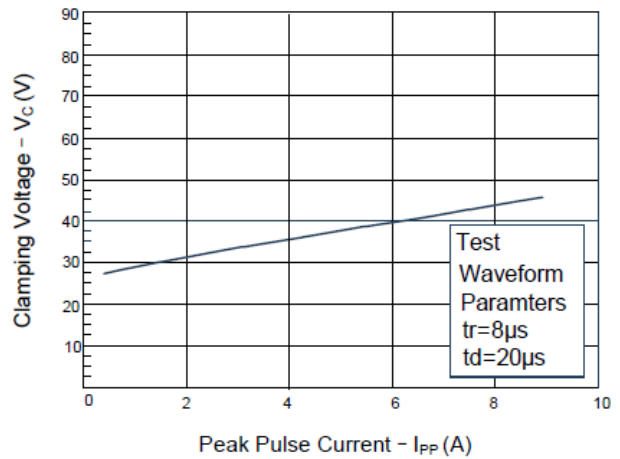
**Figure 2: Power Derating Curve**



**Figure 3: Pulse Waveform**

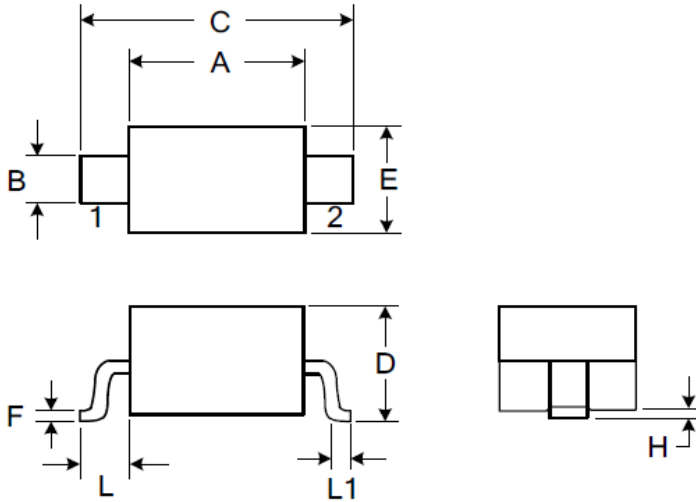


**Figure 4: Clamping Voltage vs. Ipp**



## APTLC24D-B – ESD Protection Diode

### SOD323 Package Outline Dimensions



Symbol	Dimensions (mm)	
	Min	Max
A	1.600	1.800
B	0.250	0.350
C	2.500	2.700
D		1.000
E	1.200	1.400
F	0.080	0.150
L	0.475 Ref.	
L1	0.250	0.400
H		0.100

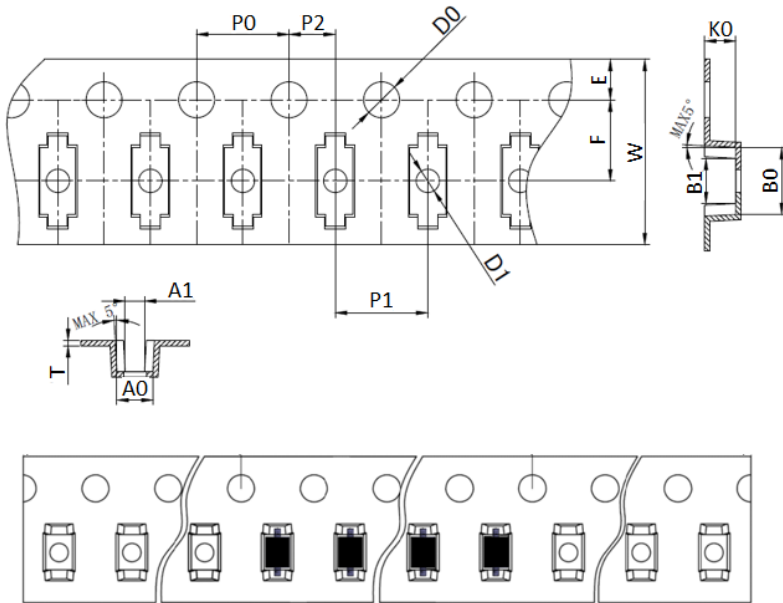
### Marking



## APTLC24D-B – ESD Protection Diode

### Packaging Information

Order Code	Packaging	Reel Size	PCS/Reel
APTLC24D-B	SOD323	7 inch	3,000



Symbol	Dimension (mm)
A0	1.56±0.10
A1	0.84±0.10
B0	2.90±0.10
B1	1.95±0.10
K0	1.35±0.10
K1	1.15±0.10
P0	4.00±0.10
P1	4.00±0.10
P2	2.00±0.05
T	0.23±0.02
E	1.75±0.10
F	3.50±0.05
D0	1.55±0.05
D1	1.00+0.10/-0
W	8.00+0.30/-0.10

