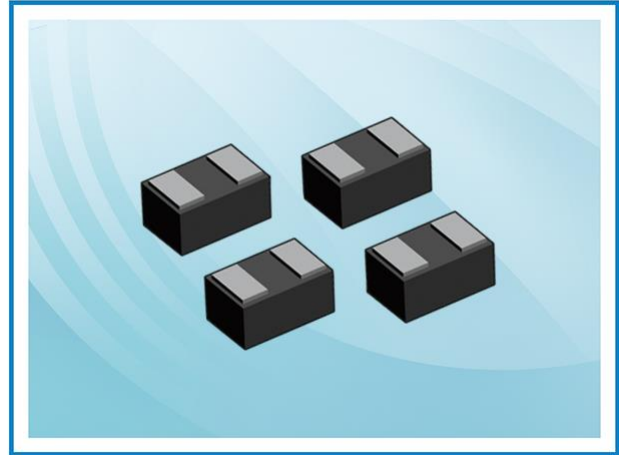


PC1025B – ESD Protection Diode

Feature

- 24 Watts peak pulse power (8/20 μ s)
- Bidirectional configurations
- Solid state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Protect one data line
- IEC61000-4-2 (ESD) \pm 20kV (Air), \pm 15kV (Contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning): 4A (8/20 μ s)



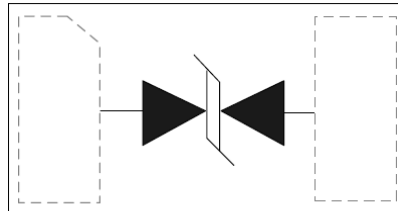
Applications

- Cell Phone Handsets and Accessories
- Micro processor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops and Servers
- Portable Instrumentation

Mechanical Data

- DFN1006 package
- Molding compound flammability rating: UL94 V-0
- Tape and Reel Packaging
- RoHS/WEEE Compliant

Schematic and PIN Configuration



DFN1006

Maximum Rating

Parameter	Symbol	Limit	Unit
IEC61000-4-2 ESD Voltage – Air Mode	$V_{ESD}^{(1)}$	\pm 20	kV
IEC61000-4-2 ESD Voltage – Contact Mode		\pm 15	
Peak Pulse Power	$P_{PP}^{(2)}$	24	W
Peak Pulse Current	$I_{PP}^{(2)}$	4	A
Maximum Lead Solder Temperature (10 seconds duration)	T_L	260	$^{\circ}$ C
Junction Temperature	T_J	-55~125	$^{\circ}$ C
Storage Temperature Range	T_{stg}	-55~125	$^{\circ}$ C

Note:

1. Device stressed with ten non-repetitive ESD pulses.
2. Non-repetitive current pulse 8/20 μ 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.

PC1025B – ESD Protection Diode

Electrical Characteristics

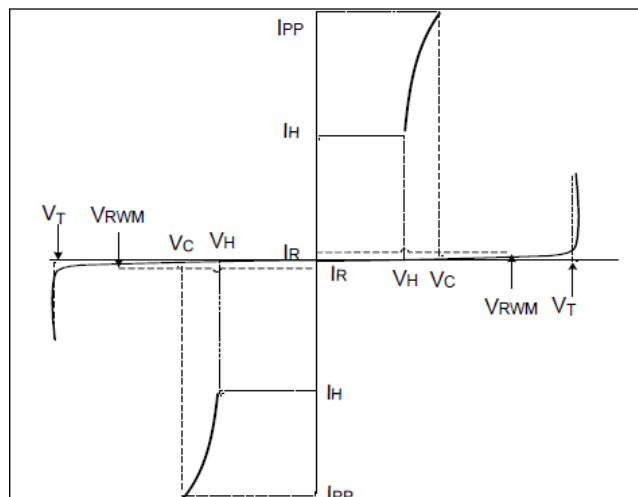
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Stand-off Voltage	$V_{RWM}^{(1)}$				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	6.0		15	V
		$I_T = 10mA$	1.0		5.0	V
Reverse Leakage Current	I_R	$V_{RWM} = 5V$			500	nA
Clamping Voltage	$V_C^{(2)}$	$I_{PP} = 4A$			6.0	V
Trigger Voltage	V_T			8.5	10	V
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$		0.5	0.6	pF

Note:

1. Other voltages available upon request.
2. Non-repetitive current pulse 8/20 μ 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}	Peak Pulse Current
V_T	Trigger Voltage
I_T	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Stand-off Voltage
V_H	Holding Voltage
I_H	Holding Current



PC1025B – ESD Protection Diode

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

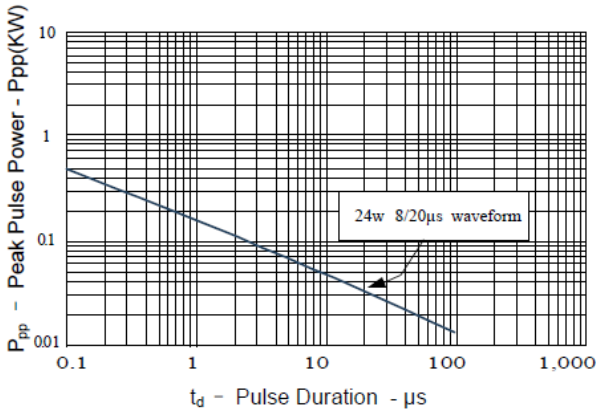


Figure 2: Power Derating Curve

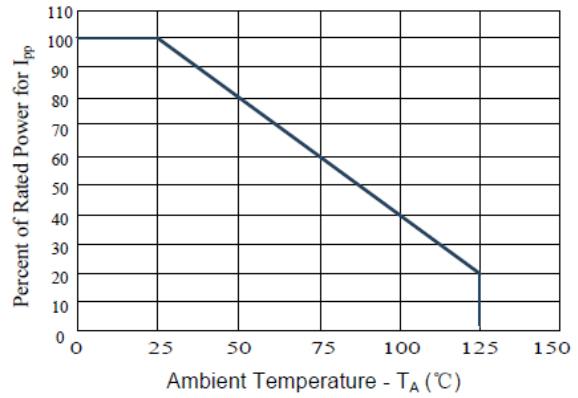


Figure3: Pulse Waveform

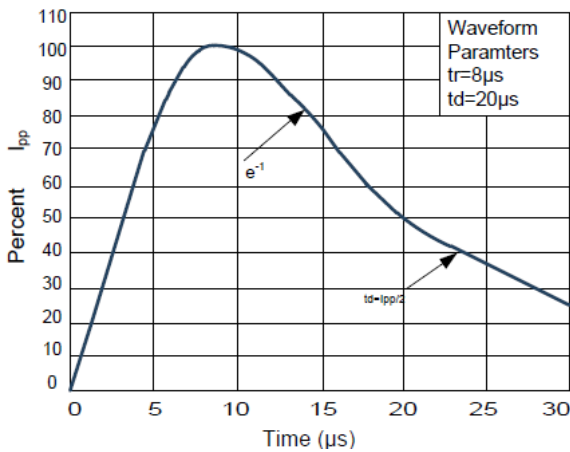


Figure 4: Clamping Voltage vs. Ipp

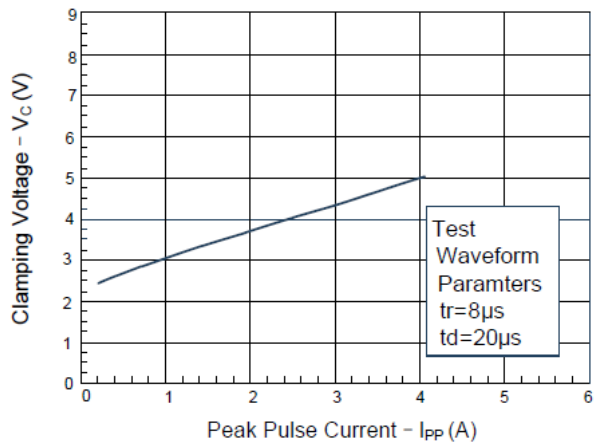


Figure5: Positive Clamping voltage

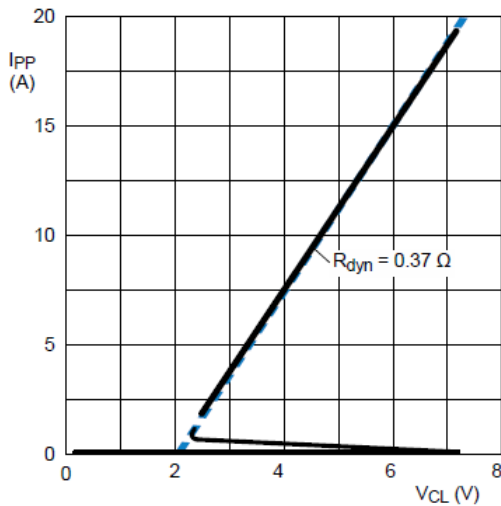
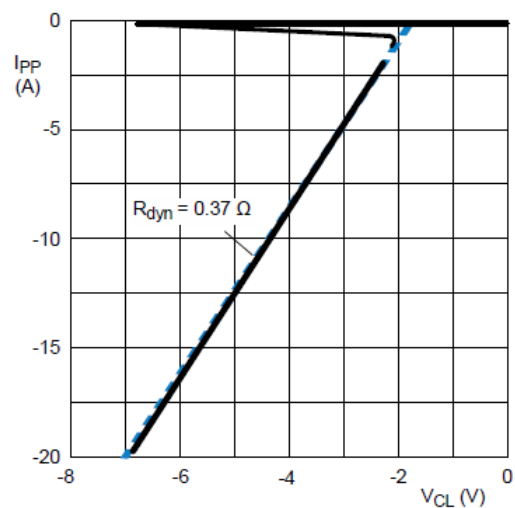
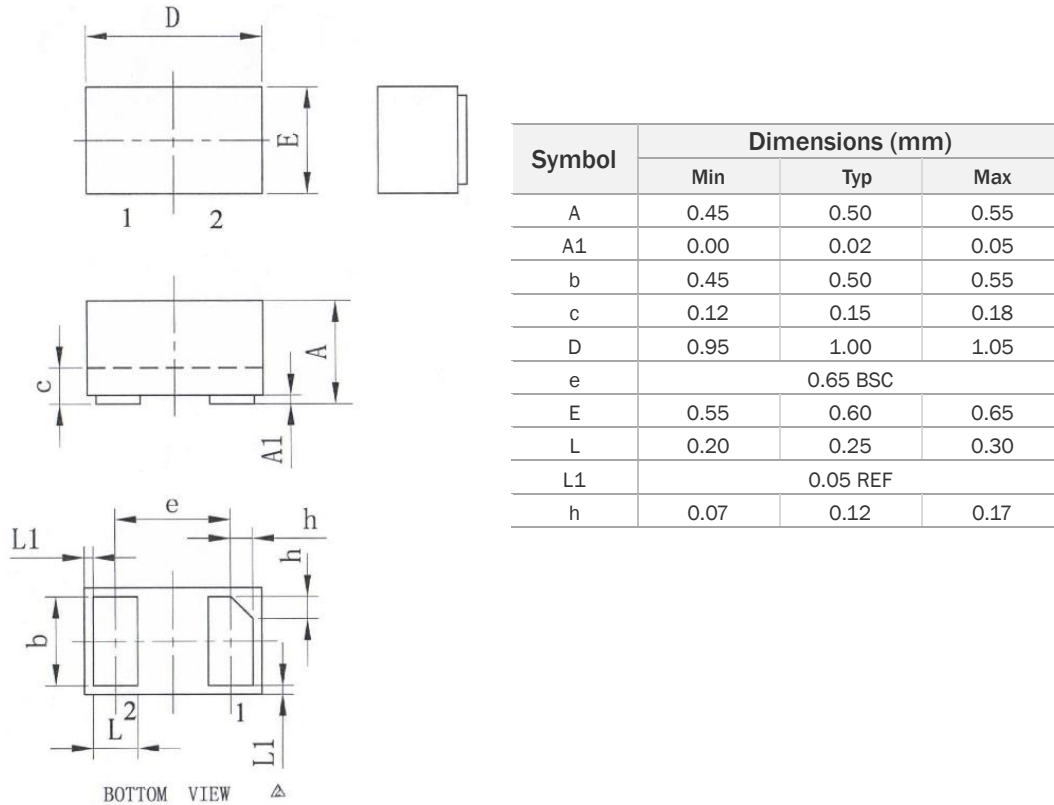


Figure6: Negative Clamping voltage

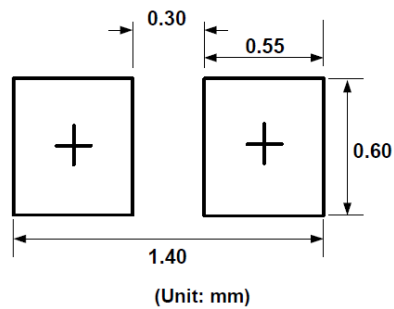


PC1025B – ESD Protection Diode

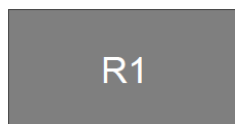
DFN1006 Package Outline Dimensions



Recommended Pad Layout



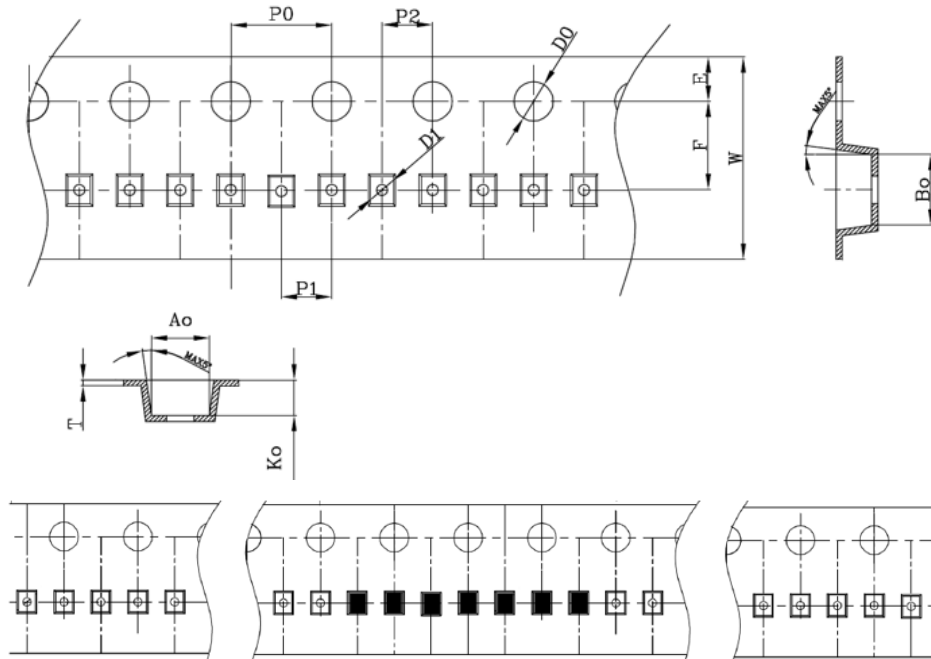
Marking



PC1025B – ESD Protection Diode

Packaging Information

Order Code	Packaging	Reel Size	PCS/Reel
PC1025B	DFN1006	7 inch	10,000



Symbol	Dimension (mm)
A0	0.69±0.05
B0	1.19±0.05
K0	0.66±0.05
P0	4.00±0.10
P1	2.00±0.05
P2	2.00±0.05
T	0.20±0.02
E	1.75±0.10
F	3.50±0.05
D0	1.55±0.05
D1	0.50±0.10
W	8.00±0.10