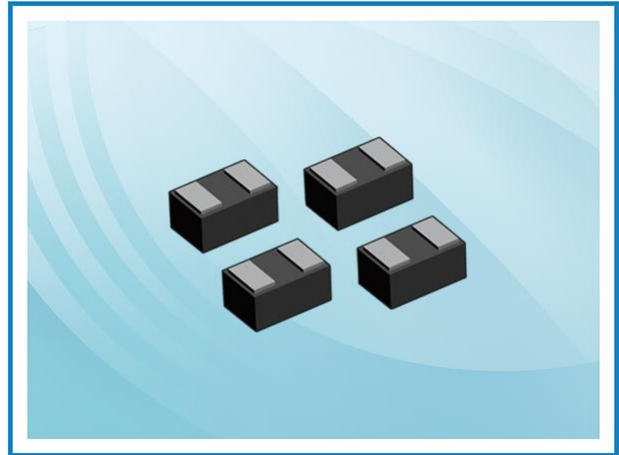


## PC0205-DFN – ESD Protection Diode

### Feature

- 35 Watts peak pulse power (8/20μs)
- Tiny DFN0603 package
- Bidirectional configurations
- Solid state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance (C<sub>j</sub> = 3.5 pF typ.)
- Protect one data/power line
- IEC61000-4-2 (ESD) ±20kV (Air), ±20kV (Contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning): 3.5A (8/20μs)



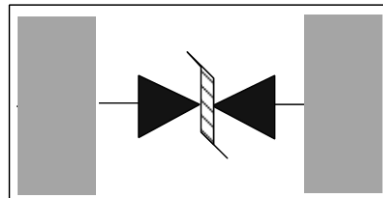
### Applications

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

### Mechanical Data

- DFN0603 package
- Molding compound flammability rating: UL94 V-0
- Tape and Reel Packaging
- RoHS/WEEE Compliant

### Schematic and PIN Configuration



DFN0603

### Maximum Rating

Parameter	Symbol	Limit	Unit
IEC61000-4-2 ESD Voltage – Air Mode	V <sub>ESD</sub> <sup>(1)</sup>	±20	kV
IEC61000-4-2 ESD Voltage – Contact Mode		±20	
Peak Pulse Power	P <sub>PP</sub> <sup>(2)</sup>	35	W
Peak Pulse Current	I <sub>PP</sub> <sup>(2)</sup>	3.5	A
Maximum Lead Solder Temperature (10 seconds duration)	T <sub>L</sub>	260	°C
Junction Temperature	T <sub>J</sub>	-55~125	°C
Storage Temperature Range	T <sub>stg</sub>	-55~125	°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 T<sub>A</sub> = 25°C unless otherwise noted.

## PC0205-DFN – ESD Protection Diode

### Electrical Characteristics

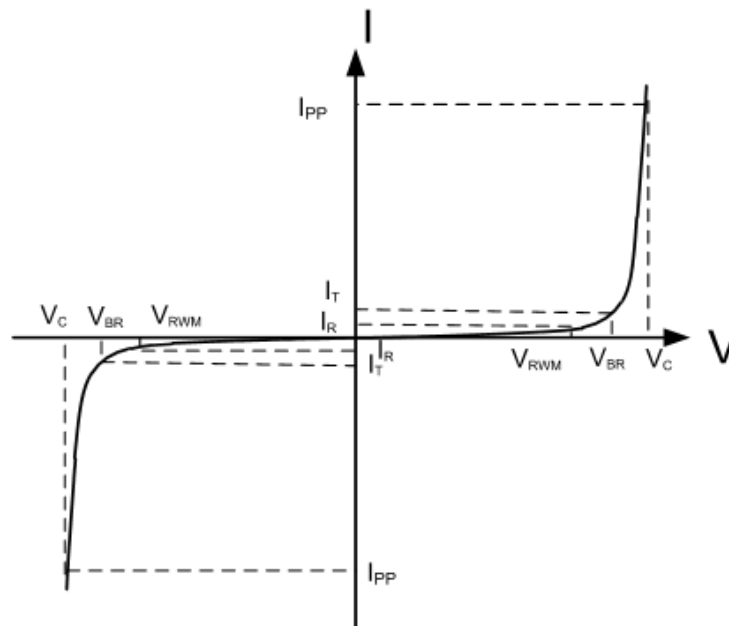
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Stand-off Voltage	$V_{RWM}^{(1)}$				5.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1 \text{ mA}$	6.0	8.0		V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5 \text{ V}$			0.5	$\mu\text{A}$
Clamping Voltage	$V_C^{(2)}$	$I_{PP} = 3.5 \text{ A}$		10	15	V
Junction Capacitance	$C_J$	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$		3.5	5.0	pF

Note:

1. Other voltages available upon request.
2. Non-repetitive current pulse 8/20 $\mu\text{s}$  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
$V_C$	Clamping Voltage @ $I_{PP}$
$I_{PP}$	Peak Pulse Current
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{RWM}$	Reverse Stand-off Voltage



## PC0205-DFN – ESD Protection Diode

### Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

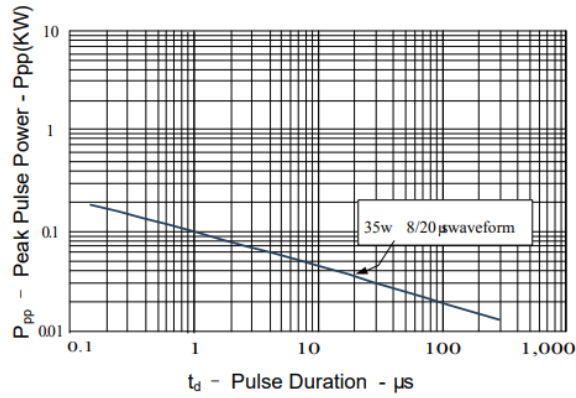


Figure 2: Power Derating Curve

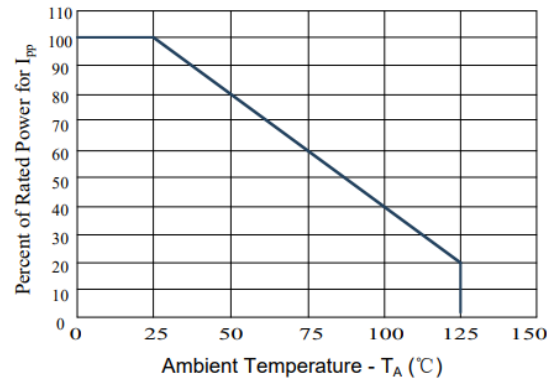


Figure3: Pulse Waveform

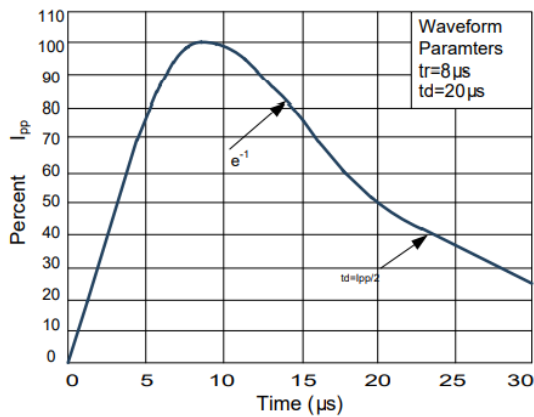


Figure 4: Clamping Voltage vs. I<sub>pp</sub>

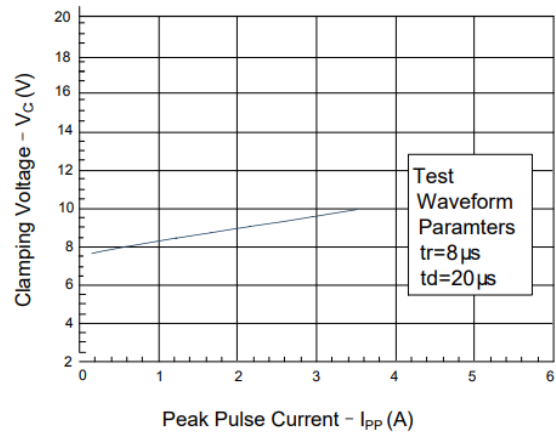


Figure5: Positive Clamping voltage (TLP)

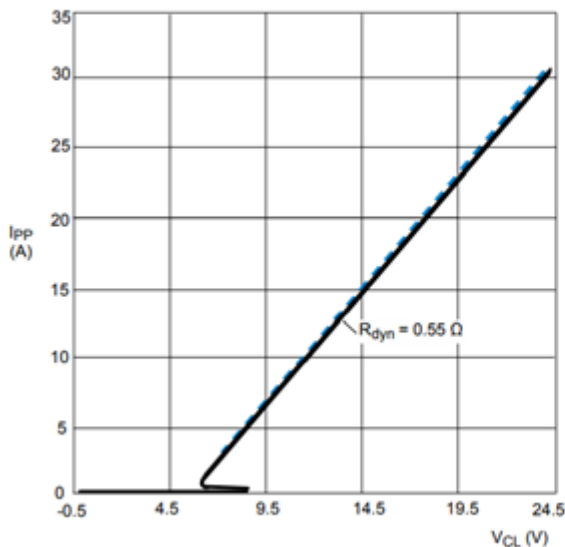
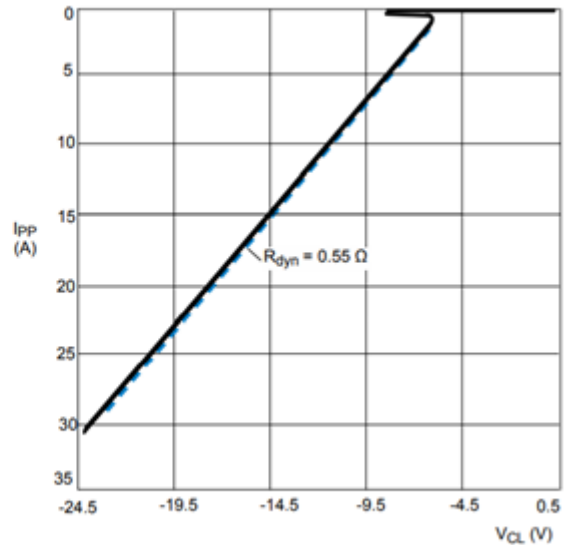
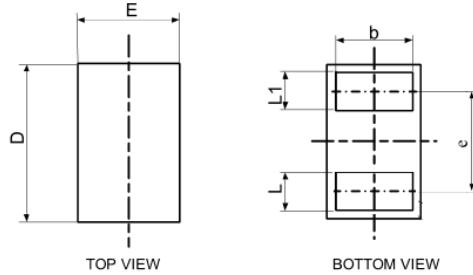


Figure5: Negative Clamping voltage (TLP)

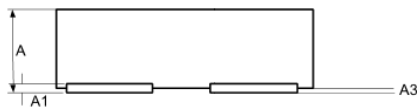


## PC0205-DFN – ESD Protection Diode

### DFN0603 Package Outline Dimensions



\*There is a chamfer on electrode to indicate different P/N



SIDE VIEW

Symbol	Dimensions (mm)		
	Min	Typ	Max
A	0.28	0.30	0.32
A1	0.102 REF		
A3	0.00	-	0.05
D	0.55	0.60	0.65
E	0.25	0.30	0.35
b	0.215	0.245	0.275
L	0.115	0.145	0.175
L1	0.115	0.145	0.175
e	0.40 BSC		

### Marking



### Packaging Information

Packaging	Reel Size	PCS/Reel	Reel/Box	Box/Carton	PCS/Carton
DFN0603	7 inch	10,000	10	4	600,000