

# PEC3203S1Q

## ESD PROTECTION

**Voltage**

**3.3 V**

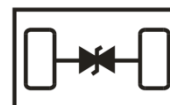
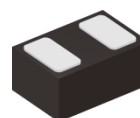
## Features

- IEC61000-4-2(ESD):  $\pm 30\text{kV}$  Air,  $\pm 30\text{kV}$  Contact
- IEC61000-4-4(EFT): 40A(5/50ns)
- IEC61000-4-5(Lightning): 10A(8/20 $\mu\text{s}$ )
- Low leakage current, maximum of 0.5 $\mu\text{A}$  at rated voltage
- Low clamping voltage
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

## Mechanical Data

- Case: Molded plastic, DFN0603-2L
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00001 ounces, 0.0004 grams

DFN0603-2L



## Maximum Ratings and Thermal Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
ESD IEC61000-4-2(Air)	$V_{\text{ESD}}$	$\pm 30$	kV
ESD IEC61000-4-2(Contact)		$\pm 30$	
Typical Thermal Resistance	$R_{\theta\text{JA}}^{(1)}$	500	$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_J$	-55~150	$^\circ\text{C}$
Storage Temperature Range	$T_{\text{STG}}$	-55~150	$^\circ\text{C}$

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## Electrical Characteristics ( $T_A = 25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage	$V_{RWM}^{(2)}$	-	-	-	3.3	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR} = 50 \text{ mA}$	3.5	-	4.5	V
Reverse Leakage Current	$I_R$	$V_R = 3.3 \text{ V}$	-	-	0.5	$\mu\text{A}$
Clamping Voltage	$V_{CL}$	$I_{PP} = 1 \text{ A}, t_P = 8/20 \text{ }\mu\text{s}$	-	-	5.5	V
		$I_{PP} = 10 \text{ A}, t_P = 8/20 \text{ }\mu\text{s}$	-	-	9	
Clamping Voltage TLP	$V_{CL}^{(3)}$	$I_{PP} = 8 \text{ A}, t_P = 100 \text{ ns},$	-	7.2	-	V
		$I_{PP} = 16 \text{ A}, t_P = 100 \text{ ns},$	-	9.2	-	
Dynamic Resistance	$R_{DYN}$	$t_P = 100 \text{ ns}$	-	0.25	-	$\Omega$
Off State Junction Capacitance	$C_J$	0Vdc Bias $f = 1 \text{ MHz}$	-	-	20	pF

### NOTES:

1. Mounted on a FR4 PCB, Single-sided copper, mini pad.
2. A transient suppressor is selected according to the working peak reverse voltage( $V_{RWM}$ ), which should be equal to or greater than the DC or continuous peak operation voltage level.
3. Testing using Transmission Line Pulse (TLP) conditions:  $Z_0 = 50 \text{ }\Omega$ ,  $t_P = 100 \text{ ns}$ .

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## TYPICAL CHARACTERISTIC CURVES

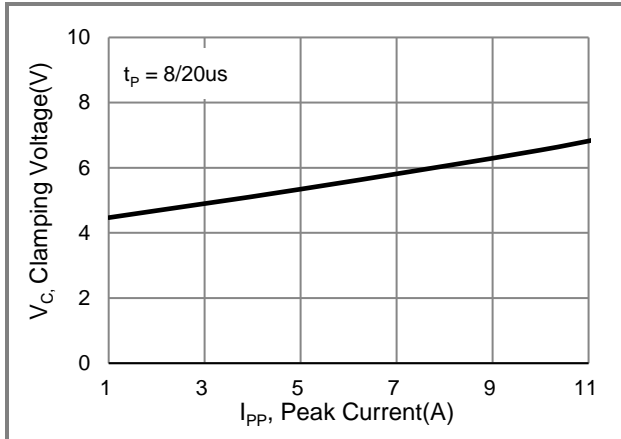


Fig.1 Typical Peak Clamping Voltage

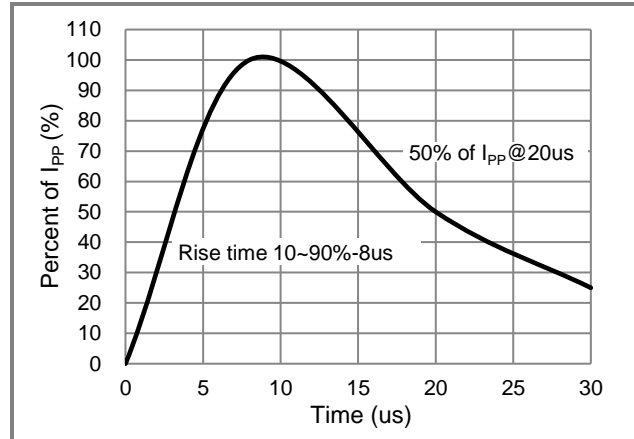


Fig.2 Pulse Waveform

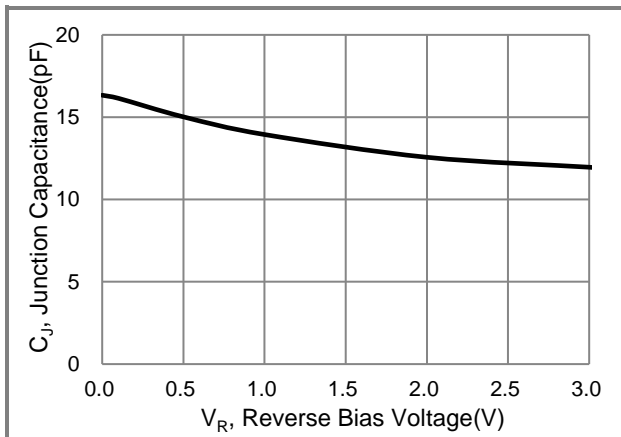


Fig.3 Typical Junction Capacitance

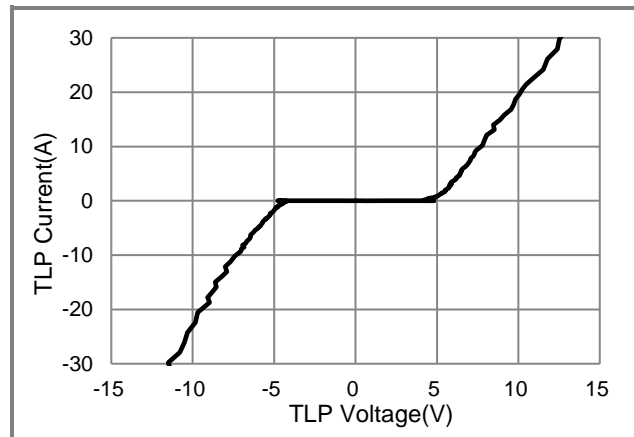


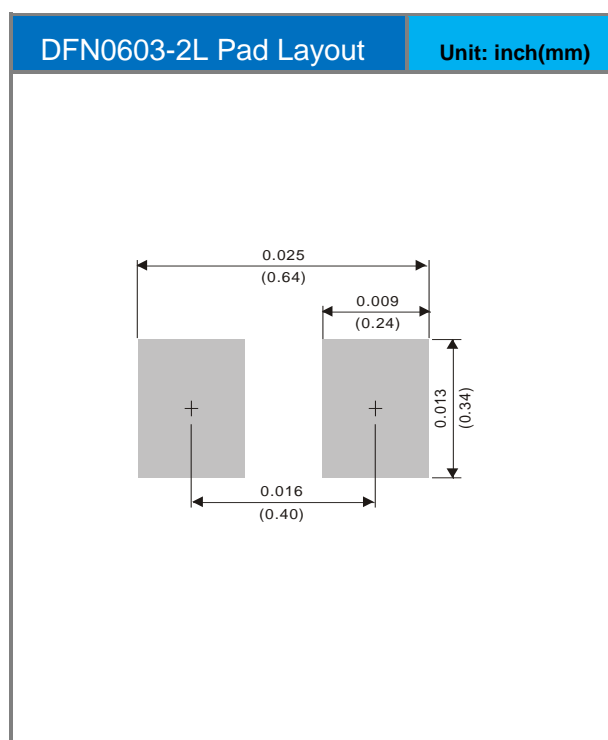
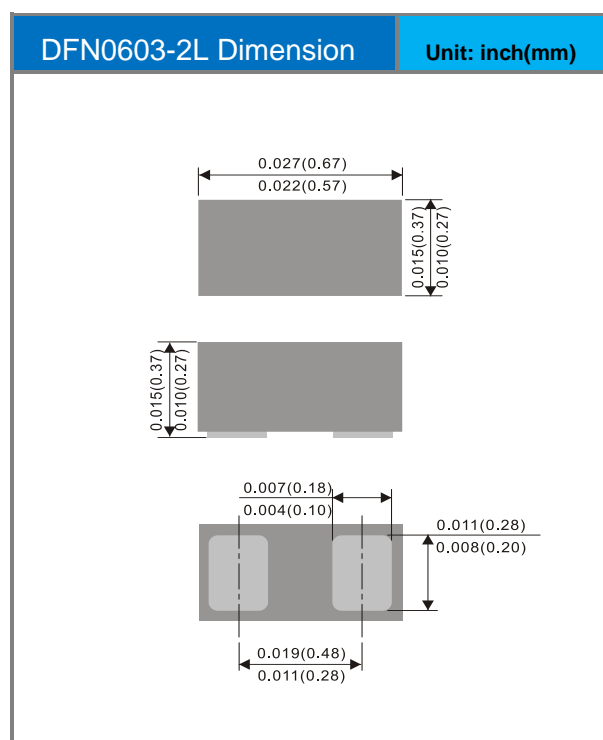
Fig.4 TLP Measurement

# PEC3203S1Q

## Product and Packing Information

Part No.	Package Type	Packing Type	Marking
PEC3203S1Q	DFN0603-2L	10K / 7" Reel	HB

## Packaging Information & Mounting Pad Layout



## PEC3203S1Q

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