



# PE3212M1Q

## ESD PROTECTION

**Voltage**

**12 V**

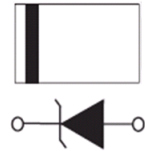
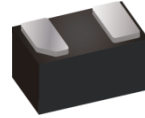
### Features

- IEC61000-4-2(ESD): ±30 kV Air, ±25 kV Contact
- IEC61000-4-4(EFT): 40 A(5/50 ns)
- IEC61000-4-5(Lightning): 2.5 A(8/20 μS)
- Low leakage current, maximum of 1μA 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, DFN1006-2L
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00002 ounces, 0.0006 grams

DFN1006-2L



## Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
ESD IEC61000-4-2(Air)	V <sub>ESD</sub>	±30	kV
ESD IEC61000-4-2(Contact)		±25	
Typical Thermal Resistance	R <sub>θJA</sub> <sup>(1)</sup>	430	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-55~150	°C
Storage Temperature Range	T <sub>STG</sub>	-55~150	°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	$V_{RWM}^{(2)}$	-	-	-	12	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR} = 1\text{ mA}$	12.5	-	15.5	V
Reverse Leakage Current	$I_R$	$V_R = 12\text{ V}$	-	-	1	$\mu\text{A}$
Clamping Voltage	$V_{CL}$	$I_{PP} = 1\text{ A}, t_p = 8/20\text{ }\mu\text{s}$	-	-	20	V
		$I_{PP} = 2.5\text{ A}, t_p = 8/20\text{ }\mu\text{s}$	-	-	25	
Clamping Voltage TLP	$V_{CL}^{(3)}$	$I_{PP} = 8\text{ A}, t_p = 100\text{ ns}$	-	17.4	-	V
		$I_{PP} = 16\text{ A}, t_p = 100\text{ ns}$	-	20.5	-	
Dynamic Resistance	$R_{DYN}$	$t_p = 100\text{ ns}$	-	0.39	-	$\Omega$
Off State Junction Capacitance	$C_J$	0 Vdc 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:  $Z_0 = 50\ \Omega$ ,  $t_p = 100\text{ ns}$ .



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## TYPICAL CHARACTERISTIC CURVES

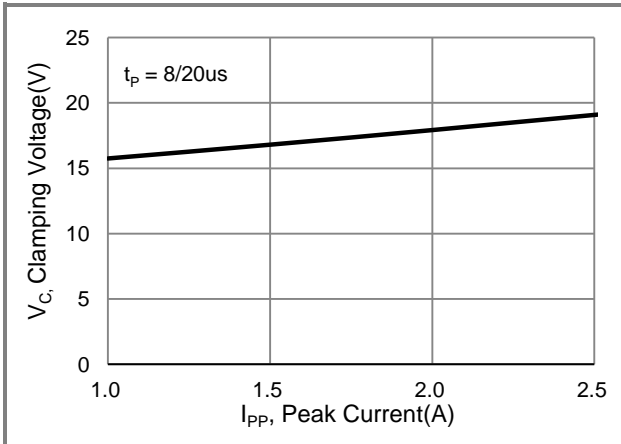


Fig.1 Typical Peak Clamping Voltage

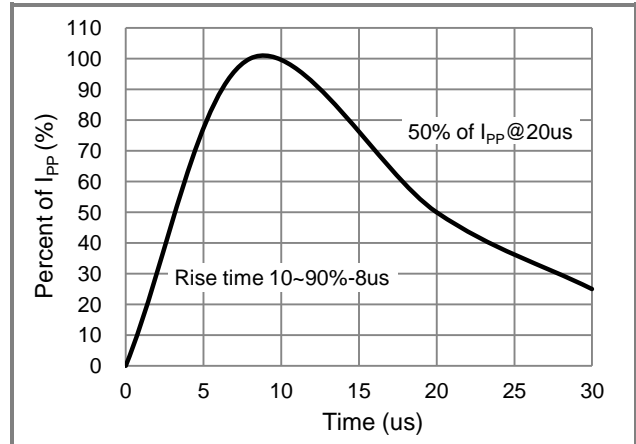


Fig.2 Pulse Waveform

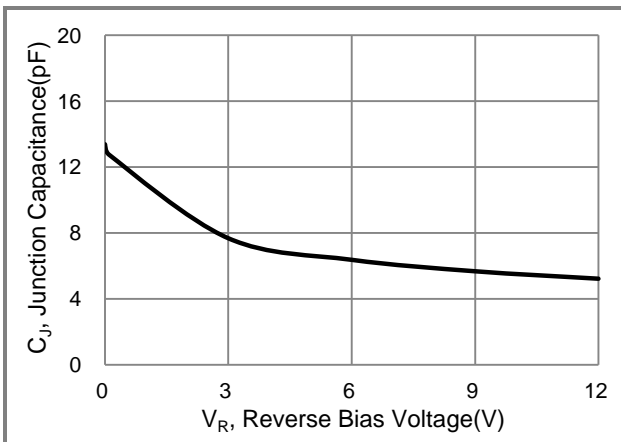


Fig.3 Typical Junction Capacitance

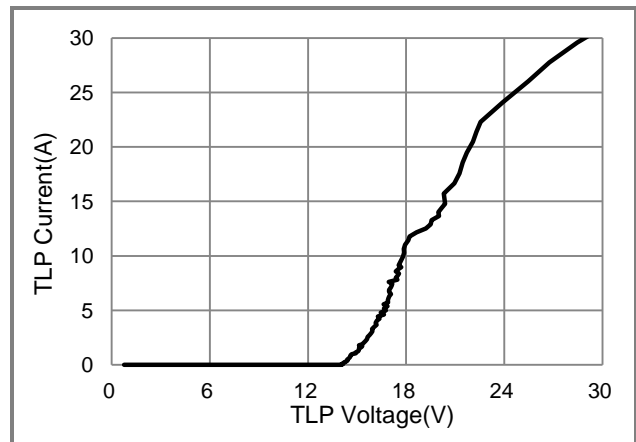


Fig.4 TLP Measurement



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## Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
PE3212M1Q_R1_00001	DFN1006-2L	10K / 7" Reel	HF	Halogen Free

## Packaging Information & Mounting Pad Layout

