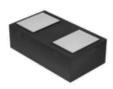




1. Features

- Capacitance: 15pF(typ.)
- Reverse Working Voltage: 5V
- IEC 61000-4-2 (ESD Air): ±25KV
  IEC 61000-4-2 (ESD Contact): ±25KV
  IEC 61000-4-5 (Lightning 8/20µs): 5A



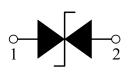
# 4. Schematic Diagram

2. Pin Description

- Smart Phone and Tablet PC
- TV and Set Top Box
- Wearable Devices
- PDA

3. Applications

## 5. Order Information



Туре	Package	Size (mm)	Delivery Form	Delivery Quantity
MKT312N15	DFN1006	1.00x0.60x0.37	7" T&R	10,000

## 6. Limiting Values(T<sub>A</sub> = 25 °C, unless otherwise specified)

Symbol	Parameter	Conditions		Max	Unit
		IEC 61000-4-2; Contact Discharge	-	±25	kV
Vesd	Electrostatic Discharge Voltage	IEC 61000-4-2; Air Discharge	-	±25	kV
P <sub>PP</sub>	Peak Pulse Power	t <sub>P</sub> = 8/20 μs	-	60	W
Іррм	Rated Peak Pulse Current	t <sub>P</sub> = 8/20 μs	-	5	А
TA	Ambient Temperature Range	-	-55	125	°C
T <sub>stg</sub>	Storage Temperature Range	-	-55	150	°C

# 7. Electrical Characteristics(T<sub>A</sub> = 25 °C, unless otherwise specified)

Symbol	Parameter	Conditions	Min	Тур.	Max	Unit
V <sub>RWM</sub>	Reverse Working Voltage	T <sub>A</sub> = 25 °C	-	-	5.0	V
$V_{BR}$	Breakdown Voltage	I <sub>R</sub> = 1mA; T <sub>A</sub> = 25 °C	5.6	6.5	8.4	V
I <sub>R</sub>	Reverse Leakage Current	V <sub>RWM</sub> = 5V; T <sub>A</sub> = 25 °C	-	-	0.1	μA
	Clamping Voltage	I <sub>PP</sub> =1A, t <sub>P</sub> =8/20μs	-	-	10	V
Vc	Clamping Voltage	I <sub>PP</sub> =5A, t <sub>P</sub> =8/20µs	-	-	12	V
CJ	Junction Capacitance	V <sub>R</sub> = 0V, f = 1 MHz	-	15	18	pF





#### **Typical Characteristics** 8.

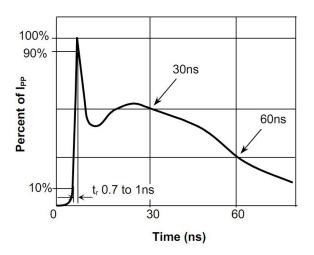


Fig.1 Pulse Waveform-ESD(IEC61000-4-2)

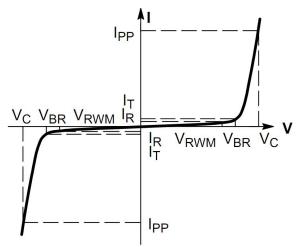


Fig.3 V-I Characteristics for Bidirectional Diode

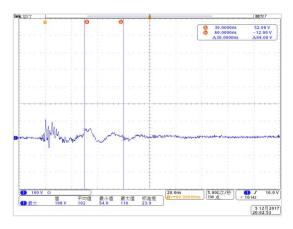
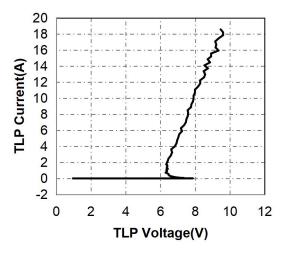
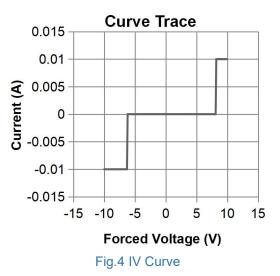


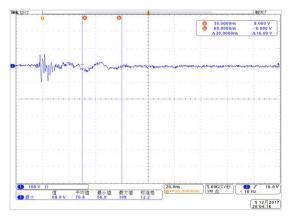
Fig.5 Clamping Voltage at IEC61000-4-2 +8kV Pulse Waveform

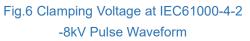


**DFN1006** 

#### Fig.2 Transmission Line Pulse (TLP)



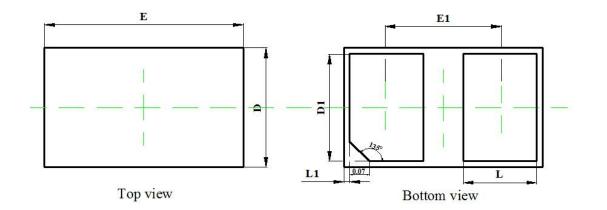


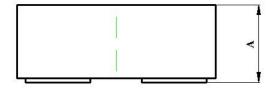




#### 9. Package Outline Dimensions

#### **DFN1006 Package Outline**



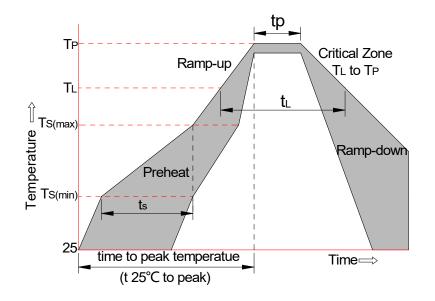


Side view

Symbol	Dimensions In Millimeters		Dimensions In Inches		
	Min	Max	Min	Мах	
Α	0.350	0.450	0.014	0.018	
D	0.550	0.650	0.022	0.026	
Е	0.950	1.050	0.037	0.041	
D1	0.420	0.520	0.017	0.020	
E1	0.550	0.650	0.022	0.026	
L	0.270	0.370	0.011	0.015	
L1	0.000	0.100	0.000	0.004	



#### **10. Soldering Parameters**



Reflow Condition		Pb-Free Assembly		
Pre-heat	-Temperature Min (T <sub>s(min)</sub> )	+150°C		
	-Temperature $Max(T_{s(max)})$	+200°C		
	-Time (Min to Max) (ts)	60-180 secs.		
Average ra	mp up rate (Liquid us Temp $(T_L)$ to peak)	3°C/sec. Max		
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max		
Reflow	-Temperature( $T_L$ )(Liquid us)	+217°C		
Reliow	-Temperature(t <sub>L</sub> )	60-150 secs.		
Peak Temp (T <sub>p</sub> )		+260(+0/-5)°C		
Time within 5°C of actual Peak Temp ( $t_p$ )		30 secs. Max		
Ramp-down Rate		6°C/sec. Max		
xTime 25°C to Peak Temp ( $T_P$ )		8 min. Max		
Do not exceed		+260°C		





Bi-directional ESD Protection Diode in DFN1006 Package

#### 11. Contact Information

Online product information is available at www.mkfounder.com Buy our products or get free samples,for further information and requests, Please e-mail us at:sales@mkfounder.com

**MKT312N15** 

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#### 13. Reversion History

Document ID	Release Date	Sheet Status	Change Notice	Supersedes
0.1	08-Mar-2018	Product datasheet	-	-
0.2	14-Aug-2018	Product datasheet	Change Dimension	-



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>>MK Founder(米客方德)