

**Micro Commercial Components** 



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# ESD12VL

## **Features**

- Protects one data or power line
- Low clamping voltage
- Ultra low leakage: nA level
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5(Lightning) 20A (8/20us)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

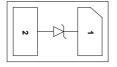
# **Maximum Ratings**

Junction Temperature: -55°C to +125°C

• StorageTemperature: -55°C to +150°C

Parameter		Symbol	Limits	unit	
IEC61000-4-2(ESD)	Contact	\/	$\pm 30$	10.7	
	Air	$V_{ESD}$	$\pm 30$	KV	
Peak Pulse Power (8/20us)		$P_{pk}$	300	W	
Peak Pulse Current (8/20us)		$I_{pp}$	12	Α	

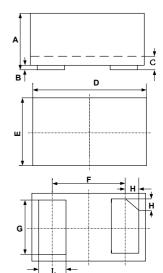
## **Circuit and Pin Schematic**



Marking Code: 2P / 12

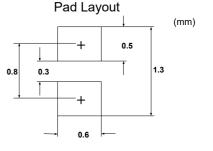
# ESD Protection Device

## **DFN1006-2**



DIMENSIONS					
INCHES		HES	MN	MOTE	
DIM	MIN	MAX	MIN	MAX	NOTE
A	0.018	0.022	0.45	0.55	
В	0.000	0.002	0.00	0.05	
С	0.005	0.007	0.12	0.18	
D	0.037	0.041	0.95	1.05	
Е	0.022	0.026	0.55	0.65	
F	0.026	REF.	0.650	REF.	
G	0.018	0.022	0.45	0.55	
Н	0.003	0.007	0.07	0.17	
L	0.008	0.012	0.20	0.30	

# Suggested Solder

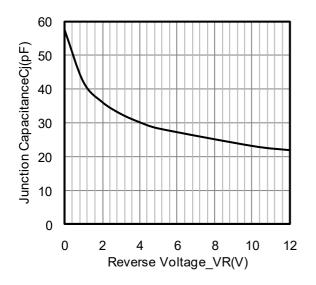


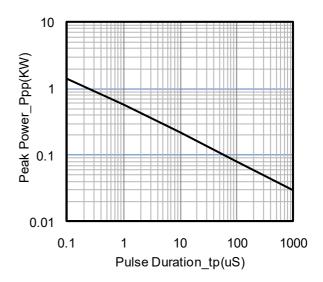


## Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			12	V	Pin 1 to Pin 2
Breakdown Voltage	VBR	13.3			V	IT = 1mA, Pin 1 to Pin 2
Reverse Leakage Current	I <sub>R</sub>			0.1	μA	VRWM = 12V, Pin 1 to Pin 2
Forward Voltage	VF		1.0	1.2	V	IF = 10mA, Pin 2 to Pin 1
Clamping Voltage	Vc			15	V	IPP = 1A (8 x 20μs pulse), Pin 1 to Pin 2
Clamping Voltage	Vc			25	V	IPP = 12A (8 x 20µs pulse), Pin 1 to Pin 2
Junction Capacitance	CJ		60		pF	VR = 0V, f = 1MHz

## Typical Performance Characteristics (T<sub>A</sub>=25°C unless otherwise Specified)



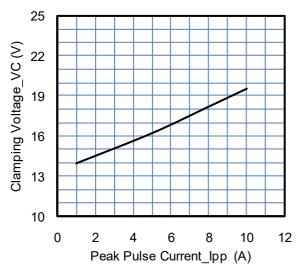


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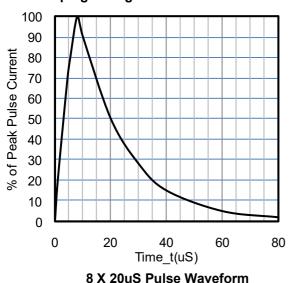


## Typical Performance Characteristics (T<sub>A</sub>=25°C unless otherwise Specified)

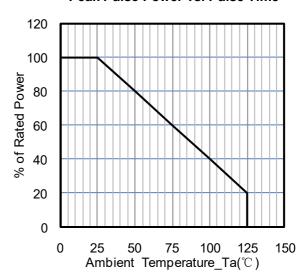
## Junction Capacitance vs. Reverse Voltage



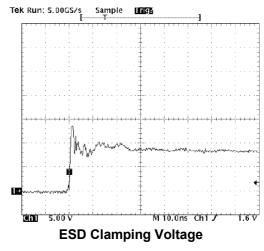
#### Clamping Voltage vs. Peak Pulse Current



#### Peak Pulse Power vs. Pulse Time



#### **Power Derating Curve**





#### **Ordering Information:**

Device	Packing	
Part Number-TP	Tape&Reel: 10Kpcs/Reel	

Note: Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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