JIEJIE MICROELECTRONICS CO., Ltd

JEB140RFA Bi-directional TVS Diode for ESD Protection

Rev.1.1

FEATURES

- ♦ Ideal ESD protection for high frequency, high speed applications.
- ♦ Ultra-low capacitance (0.2pF typical).
- → Fast response time (<1ns, 0.5ns typical).
 </p>
- Very low leakage current, reduces power consumption.
- ♦ Bi-directional device for placement flexibility.
- ♦ Surface mount design for board space savings.
- Compatible with standard reflow installation procedures.

Ceramic ESD Protector





MAIN APPLICATIONS

- ♦ High speed data ports, DVI, HDMI1.3/1.4, USB2.0/3.0, display port 1.0/1.1, e-SATA, IEEE1394.
- ♦ Antennas (cell phone, satellite radio, GPS...), blue tooth, LED lighting protection.
- ♦ Portable devices, cellular phone, PDA's, digital cameras, digital camcorders.
- ♦ High speed ethernet, DSL modems, computers & peripherals, printer ports.
- ♦ HDTV, set top boxes, DVD players, A/V equipment, multimedia players.

ELECTRICAL PARAMETERS(T_A=25°C)

	Working voltage	Trigger voltage	Clamping voltage	Leakage current	Capacitance
Part Number	V_{DC}	V_{T}	V _C	L	C_P
	max(V)	typ(V)	typ(V)	max(µA)	typ(pF)
JEB140RFA	14	200	30	0.1	0.2

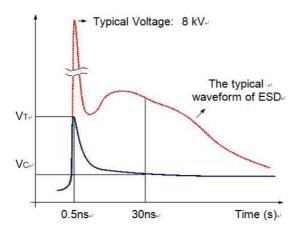
^{*}Trigger voltage measured per IEC61000-4-2 Level 4, 8KV.

^{*}Capacitance measured at 1MHz.

^{*}Leakage current measured at working voltage.



GENERAL CHARACTERISTICS



IEC61000-4-2 Standards

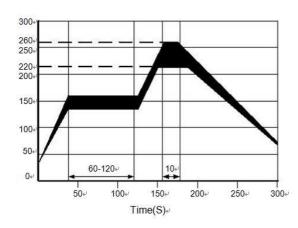
Level⊬	First⊬ Peak⊬ Current⊬ (A)⊬	Peak Current at 30 ns (A)	Peak Current at 60 ns (A)√	Test⊬ Voltage⊬ (Contact⊬ Discharge)⊬ (kV)⊬	Test⊬ Voltage⊬ (Air⊬ Discharge)⊬ (kV)⊬
1₽	7.5₽	44	2₊	2₊/	2↔
2₊	15⊷	8₽	44	4₊/	4₽
3₊	22.5+	12⊬	6⊬	6↔	8⊬
4.	30↔	16⊬	84	8⊬	15⊬

Operating temperature range	-50℃ to +125℃	
Storage temperature range	-50°C to +150°C	
ESD Capability:		
IEC61000-4-2 Contact discharge	8KV typical	
IEC61000-4-2 Air discharge	15KV typical	

ENVIRONMENTAL SPECIFICATIONS

- ♦ High temperature storage: 150°C, 1000 hours without load.
- → Temperature cycle: The temperature cycle shall be repeated for five times, -40°C/ 30 min; room temperature/ 1~2 hours; 125°C/ 30 min; room temperature/ 1~2 hours.
- ♦ High temperature load: 85°C, 1000 hours with the maximum allowable voltage.
- ♦ Humidity load: 40°C, 90 to 95% RH environment, the maximum allowable voltage applied for 1000 hours.
- ♦ Low temperature storage: -40°C, 500 hours without load.
 - * After being test, all the specimen should be stored at room temperature 1~2 hours, the change of voltage shall be within 10%.

SOLDER REFLOW RECOMMENDATIONS

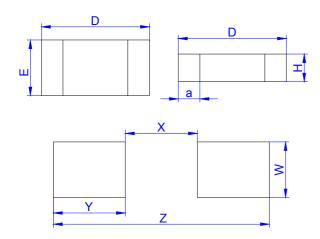


- Recommended reflow methods: IR, vapore phase oven, hot air oven.
- The device can be exposed to a maximum temperature of 260°C for 10 seconds.
- Devices can be cleaned using standard, industry methods and solvents.

Notes: If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

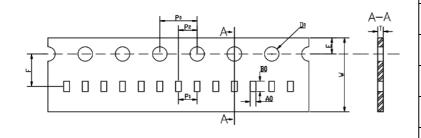


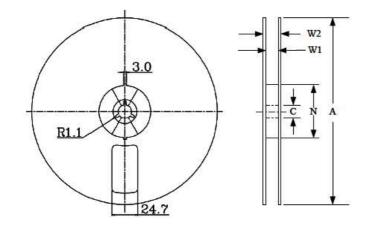
PRODUCT DIMENSIONS



	Dimensions				
Ref.	Millimeters		Inches		
	Min.	Max.	Min.	Max.	
D	0.9	1.1	0.035	0.043	
E	0.4	0.6	0.016	0.024	
Н		0.6		0.024	
а	0.15	0.35	0.006	0.014	
W	0.5	0.6	0.020	0.024	
Х	0.4	0.6	0.016	0.024	
Y	0.6	0.9	0.024	0.035	
Z	1.4	2.4	0.055	0.094	

TAPE AND REEL INFORMATION

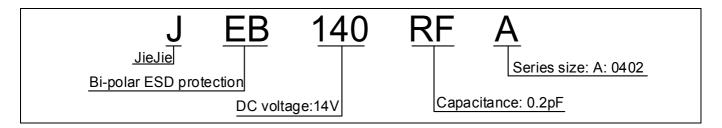




Symbol	Millimeters	Inches
A0	0.68±0.03	0.027±0.001
В0	1.17±0.03	0.046±0.001
W	8.00±0.10	0.315±0.004
F	3.50±0.05	0.138±0.002
E	1.75±0.10	0.069±0.004
P1	2.00±0.05	0.079±0.002
P2	2.00±0.05	0.079±0.002
P0	4.00±0.10	0.157±0.004
ФD0	1.55±0.05	0.061±0.002
Т	0.43±0.03	0.017±0.001
Α	178±2.0	7.008±0.079
N(min.)	50	1.969
С	13.0±0.2	0.512±0.008
W2(max.)	14.4	0.567
W1(min.)	8.4	0.331
W1(max.)	9.9	0.390



PART NUMBERING SYSTEM



ORDERING INFORMATION

Part Number	Package	Quantity Per Reel (PCS)	Reel Size
JEB140RFA	0402	10,000	7 Inch

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