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SPECIFICATION FOR APPROVAL

JMV-3176-A

Customer:

Products Name : ESD protection

P/N :

JES0603C050T0R2XXG

ISSUE DATE : Apr-24-2024

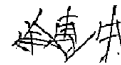
REV. NO :

REV. DATE :

EDITED BY

李旻珊

CHECKED BY



APPROVED BY



CUSTOMER APPROVAL

- ☐ Approval
- ☐ Approval with the following change
- ☐ Reject with the following reasons

CUSTOMER SIGNATURE

DATE

■ Vendor: PROSPERITY DIELECTRICS CO., LTD.

No. 566-1, Kaoshi Rd., Yangmei, Taoyuan 32668, Taiwan (R.O.C.)

TEL: +886-3-475-3355 , FAX: +886-3-485-4959 , <http://www.pdc.com.tw/>

■ Manufacturer: Joyin Co., Ltd.

No.160, Ln.623, Shenshen Rd., Yangmei Dist., Taoyuan city, Taiwan . <http://www.joyin.com.tw>

Chip Varistors ESD protection
Edition : JES0603C050T0R2XXG

Part Number Code

JES 0603 C 050 T 0R2 XX G
(1) (2) (3) (4) (5) (6) (7) (8)

No.	Item	Digit	Specification
(1)	Product Type	JES	JOYIN ESD protection
(2)	Chip Size	0603	EIA 0603
(3)	Series	C	ESD protection
(4)	Operating Voltage	050	$5 \times 10^0 = 5 \text{ V DC}$
(5)	Packaging	T	Tape on reel
(6)	Capacitance	0R2	$0.2 \times 10^0 = 0.2 \text{ pF}$
(7)	Optional Suffix	XX	Internal ID
(8)	Optional Suffix	G	Halogen-free & RoHS

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ELECTRICAL CHARACTERISTICS

Part No.	Rated voltage	Leakage current	Peak voltage	Trigger voltage	Clamping voltage
	VDC	IL	Vp	Vt	Vc
	(V)	(μ A)	(V)	(V)	(V)
JES0603C050T0R2XXG	5	0.01	300	300	30

Part No.	Capacitance, @1MHz	Response time	ESD voltage capability, Contact discharge mode	ESD voltage capability, Air discharge mode	ESD pulse withstand
	Cp	ns	kV	kV	pulses
	pF				
JES0603C050T0R2XXG	0.2	<1	8	15	1000

Rated voltage - IL measurement rated voltage

Vp – The peak voltage value shall be measured under the following conditions. ESD

test conditions : IEC61000-4-2, 8 kV contact discharge

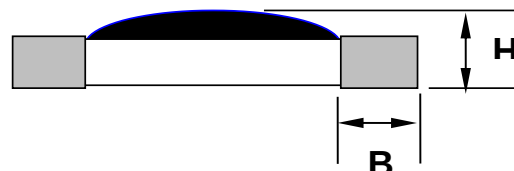
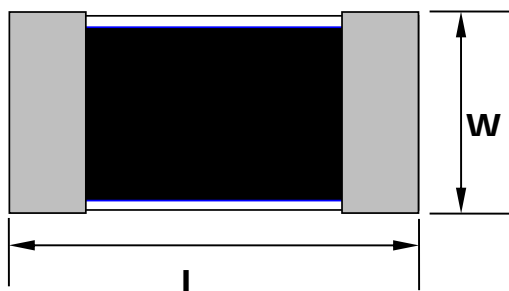
Vt – measurement by using Transmission Line Pulse (TLP)

Vc – measurement by using Transmission Line Pulse (TLP)

Cp – Device capacitance measured with 1Vrms

Operating Temperature range : -55°C to +125°C

Storage Temperature range : -55°C to +125°C

Dimensions

Unit : mm

Part No.	L	W	H	B
JES0603C050T0R2XXG	1.60±0.10	0.85±0.15	0.51±0.05	0.30±0.20

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Reliability Tests

Item	Specifications	Test condition	Reference
Bias humidity	$I_L \leq 10 \mu A$	90%RH, 40°C, rated voltage, 1000 hrs	MIL-STD-202 Method 103
Thermal Shock	$I_L \leq 10 \mu A$	-40°C to 85°C, 30 min. cycle, 5 cycles	JIS C 0025 (1998) Test Na
High Temperature load voltage	$I_L \leq 10 \mu A$	Rated voltage, 85°C, 1000 hrs	MIL-STD-202G Method 108
Solder leach resistance	$I_L \leq 10 \mu A$	260°C, 10s	MIL-STD-202G Method 210F
Vibration	$I_L \leq 10 \mu A$	The entire frequency range : 10~55Hz 1.5mm amplitude 2 hours for each of X, Y, Z directions	MIL-STD-202G Method 201A

I_L – Leakage current at rated voltage, the maximum leakage current was measured after reliability test.

Storage condition of products

(I) Taping Package Storage Condition

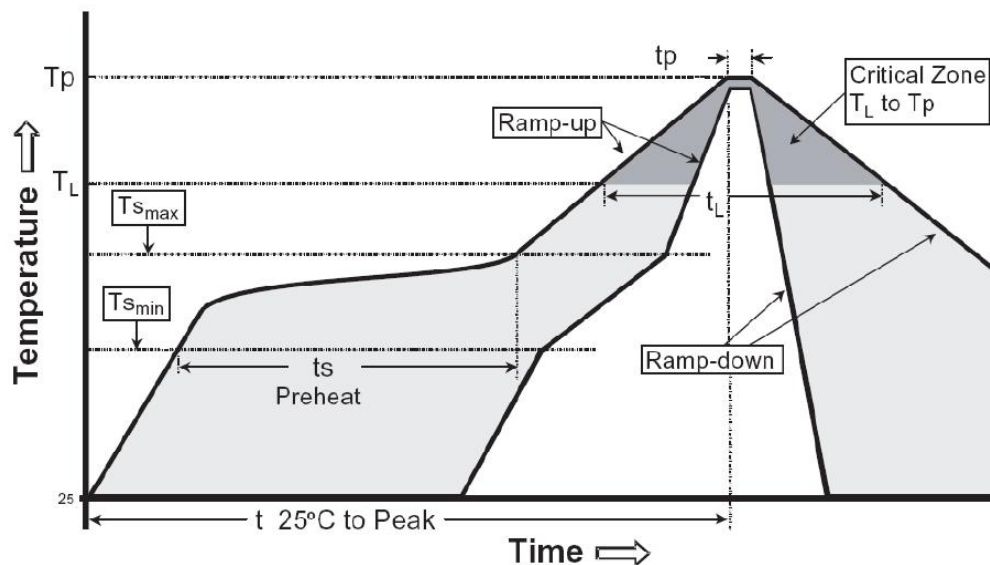
Storage Temperature : 5 to 40 °C

Relative Humidity : < 65%RH

(II) Period of Storage : 1 year

Chip Varistors ESD protection
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Recommendable reflow soldering

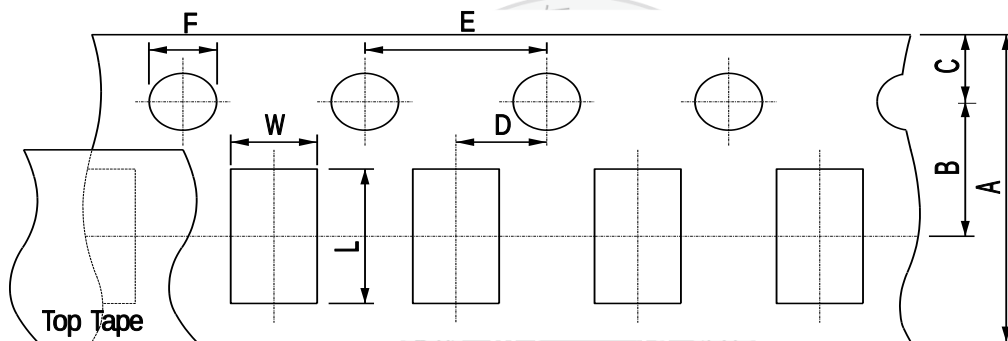


Profile Feature	Pb free Assembly
Average Ramp Rate (Ts max to Tp)	3 °C/second max
Preheat - Temperature Min (Ts_{min}) - Temperature Min (Ts_{max}) - Time(ts_{min} to ts_{min})	150°C 200°C 60-120 seconds
Time maintained above: - Temperature (TL) - Time (tL)	217°C 60-150 seconds
Peak Temperature (Tp)	260°C +0/-5 °C
Time within 5 °C of actual Peak	30 seconds
Ramp-Down Rate	6 °C/second max.
Time 25°C to Peak Temperature	8 minutes max

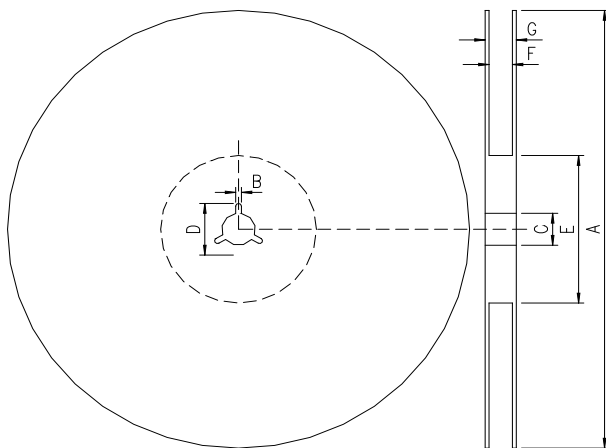
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Taping & Reel

Taping Dimensions



Type	A	B	C	D	E	F	L	W	T
0603	8.00 ± 0.30	3.50 ± 0.05	1.75 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	1.50 ± 0.10	1.90 ± 0.20	1.05 ± 0.20	0.60 ± 0.03



A	178.0 ± 2.0
B	2.0 ± 0.5
C	13.0 ± 0.5
D	21.0 ± 0.8
E	62.0 ± 1.5
F	9.0 ± 0.5
G	13.0 ± 1.0

Standard Packaging

Size	0603
Pcs / Reel	5000