

PART NO. MV0402E240C0R2T

Standards

MV	0402	E	240	C	0R2	T
①	②	③	④	⑤	⑥	⑦

①production series: ESD/Varistor

②size: 0402=1005

③type: G:general ; E: ESD ; H: high energy

④working voltage (DC): 5R5=5.5V, 140=14V, 180=18V, 240=24V

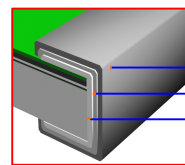
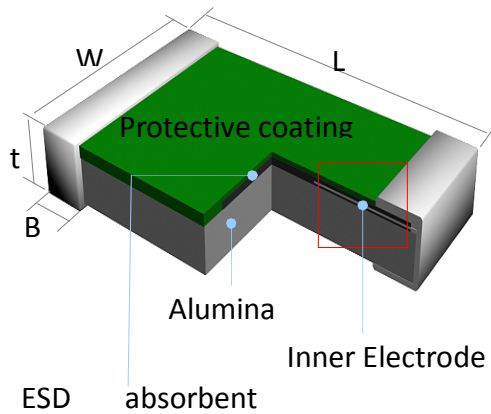
⑤Capacitance

⑥typical capacitance value measured : X:无容值要求;

0R15=0.15PF, 0R2=0.2PF, 0R5=0.5PF, 3R0=3PF, 361=360pf, 801=800PF

⑦package: T: taping B: bulk

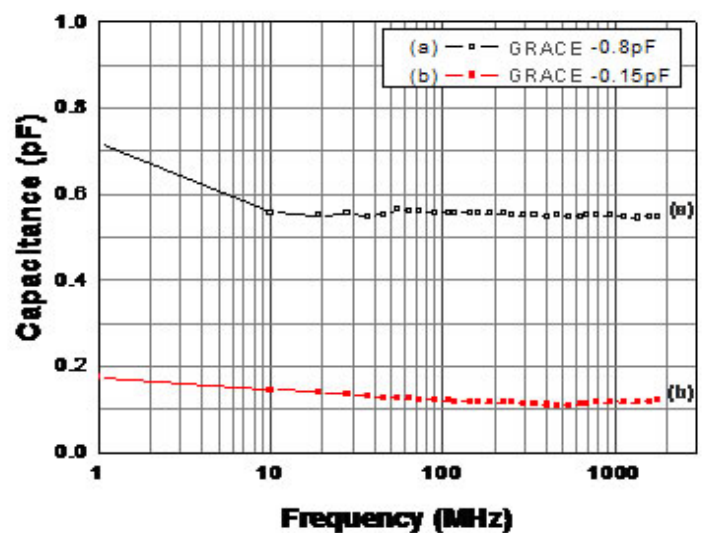
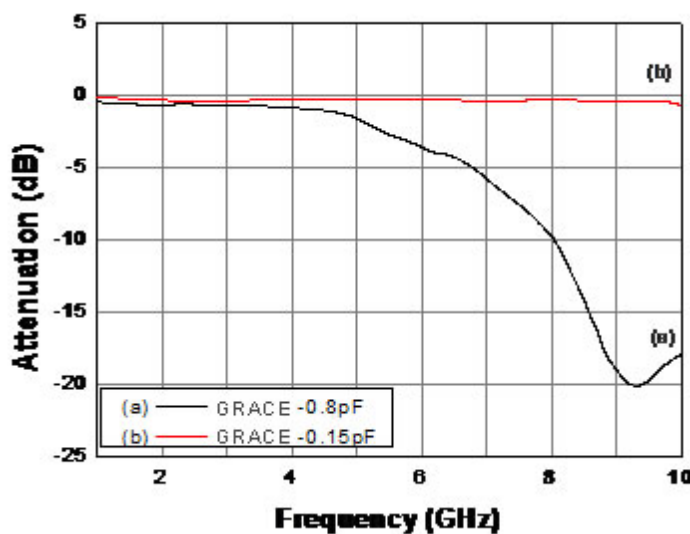
Shape & Dimension


 Solder layer, Sn
 Barrier, Ni
 External Electrode,

unit : mm

SIZE	L	W	t	B
1005	1.0±0.1	0.5±0.1	0.40±0.1	0.2±0.1

Frequency properties ; Cp, Insertion Loss

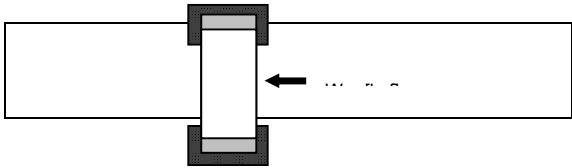


■ Specifications

Capacitance	Trigger Voltage	Clamping Voltage	DC Voltage	Max. Leakage Current ¹ (I _L)	ESD Capability*
0.2PF	2.2KV	2.2KV	24V	0.05uA	8kV, contact

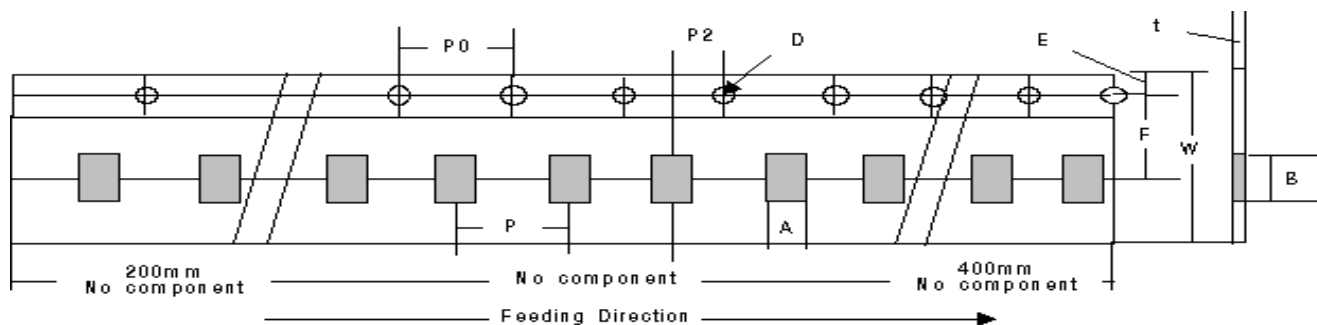
* Per IEC 61000-4-2, 30A@8kV, level 4, clamp measurement made 30ns after initiation of pulse, . all test in contact discharge mode

■ Performance specifications

No	Item	Requirements	Test method
1	Operation Range	1. -40℃ ~ 85℃	
2	Leakage current	1. Satisfaction to the specification, under 1uA	1. Applied voltage : specified working voltage
3	Capacitance	1. Satisfaction to the specification, under 1pF	1. Frequency & OSC level : 1MHz, 1.0Vrms
4	Solderability	1. More than 90% of the terminal electrode shall be covered with new solder.	1. Type of solder : H63A 2. Soldering Temp & Time : 230+/-5℃, 5+/-1 sec
5	Reflow soldering	1. No Serious mechanical damage 2. More than 50% of the terminal electrode shall be covered with new solder 3. Leakage Current : ≤ 10uA	1. Type of solder : H63A 2. Temp & Time : max 260+/-5℃, min 10sec * Refer to the soldering profile of page 6
6	Humidity Load Test	1. No Serious mechanical damage 2. Leakage Current : ≤ 10uA	1. Test Temp. & Relative Humidity & Time : 85+/-5℃, 85 +/- 5% RH, Vw Applied, 500 +/- 12hrs
7	Thermal Shock		1. Step 1 : -40 +/- 5℃, Step 2 : 85 +/- 5℃ 2. Cycle : 30min ± 3min, each 5 cycles
8	High Temp. Test		1. Temp. & time : 85+/-5℃ , 1000 +/- 24hrs
9	Adhesive strength	1. No Serious mechanical damage under condition of 1005 : min 0.5kgf, 1608 : min 1.0kgf	
10	ESD	1. No mechanical damage after test 2. Leakage Current : ≤ 10uA * ESD gun (IEC61000-4-2 standard) * C=150pF R=330Ω	1. Contact discharge * Voltage : +/-8kV(Level 4) * Number : 10 times in 10sec
			2. Air discharge * Voltage : +/-15kV(Level 4) * Number : 10 times in 10sec

■ Packing specifications

1. Carrier tape



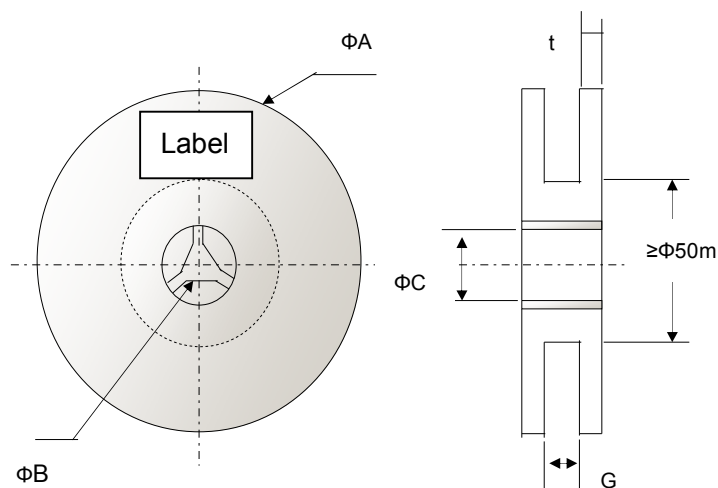
unit :mm

Size	A	B	W	D	E	F	P	P0	P2	t
0402=1005	0.65+/-0.10	1.15+/-0.10	8.00+/-0.20	1.50+/-0.25	1.75+/-0.10	3.50+/-0.50	2.0+/-0.1	4.0+/-0.10	2.0+/-0.10	1.1max
0603=1608	1.10+/-0.10	1.90+/-0.10					4.0+/-0.1			

* paper type

2. Reel & Label

[Plastic Reel]

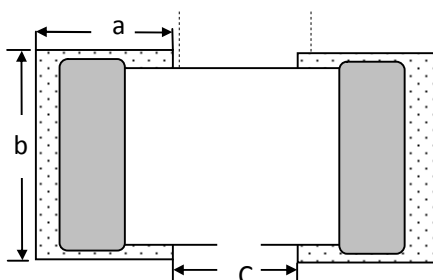


unit :
mm

code	dimension
ΦA	178+/-2.0
ΦB	13.0+/-0.5
ΦC	22.0+/-2.0
G	10.0+/-1.5
t	2.5+/-0.5

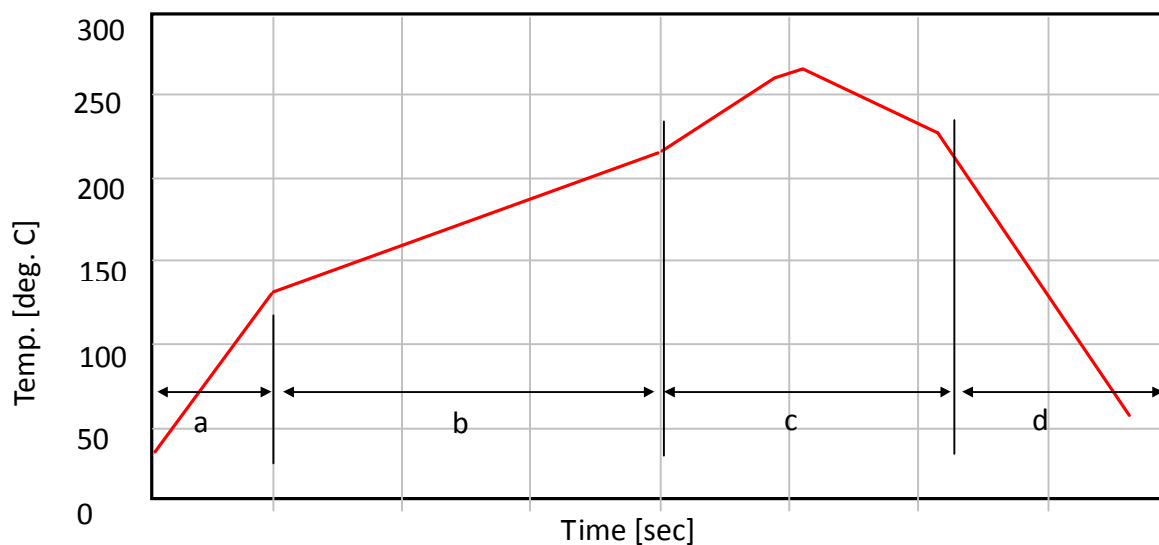
Recommended Soldering condition

1) Land Pattern Design



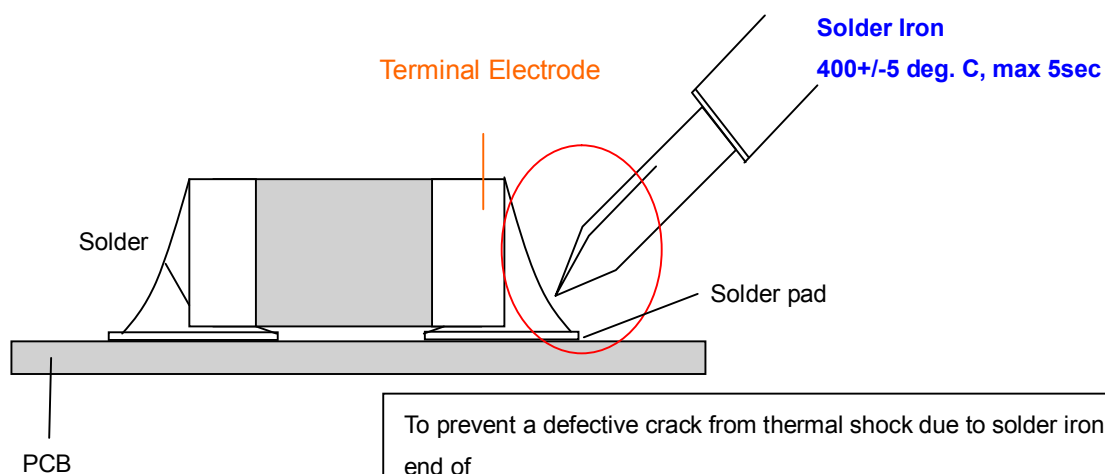
Code	Land Dimension with Chip Size [mm]			
	0201=0603	0402=1005	0603=1608	0805=2012
a	0.20~0.35	0.30~0.50	0.60~0.70	0.60~0.70
b	0.25~0.40	0.40~0.60	0.60~0.80	0.80~1.10
c	0.25~0.40	0.30~0.50	0.60~0.80	1.00~1.20

2) Reflow Soldering



Zone	temp. range [deg. C]	time [sec]	Remark
a	Curing RT ~ 130	60	* Solder : Sn-Ag-Cu * 260deg. C, over 10sec
b	Preheat max 220	90 ~ 150	
c	Soldering 220 ~ 260 [max 270]	90 ~ 150	
d	Cooling 220 ~ RT	min 60	

3) Soldering Iron



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