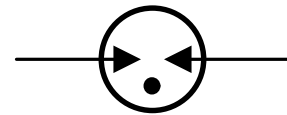


## Features

- Stable breakdown voltage
- High insulation resistance
- High current rating
- Low capacitance ( $\leq 0.5\text{pF}$ )
- Stable performance over life
- Large absorbing transient current capability
- Fast response time
- RoHS compliant
- Standard Size: 3.2mm\*1.6mm\*1.6mm
- Meets MSL level 1, per J-STD-020
- Storage and operating temperature:  $-40^{\circ}\text{C} \sim +90^{\circ}\text{C}$

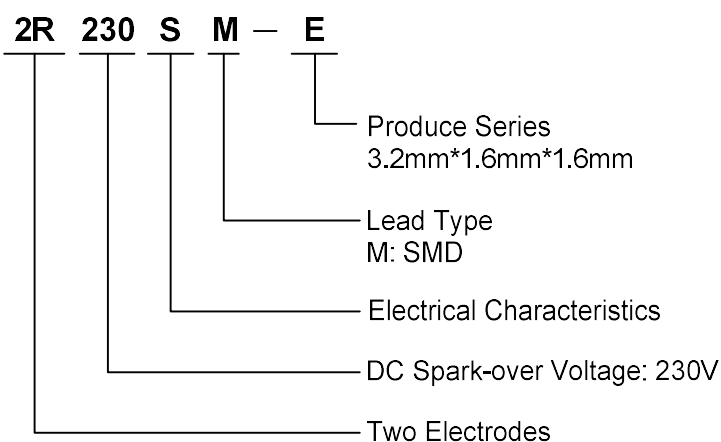
GDT Graphical Symbol



## Applications

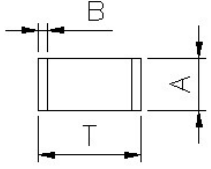
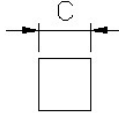
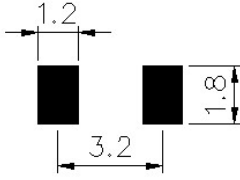
- Repeaters, Modems
- Subscriber protection
- Telephone Interface, Line cards
- Data communication equipment
- Line test equipment
- Branch exchange
- Subscriber protection
- Alarm system
- Tuner
- Antenna protection

## Part Number Code and Marking



None

### Dimensions

Recommended Pad Layout		Symbol	Dimensions(mm)
		T	3.2±0.3
		A	1.6±0.2
		B	0.3±0.1
		C	1.6±0.2

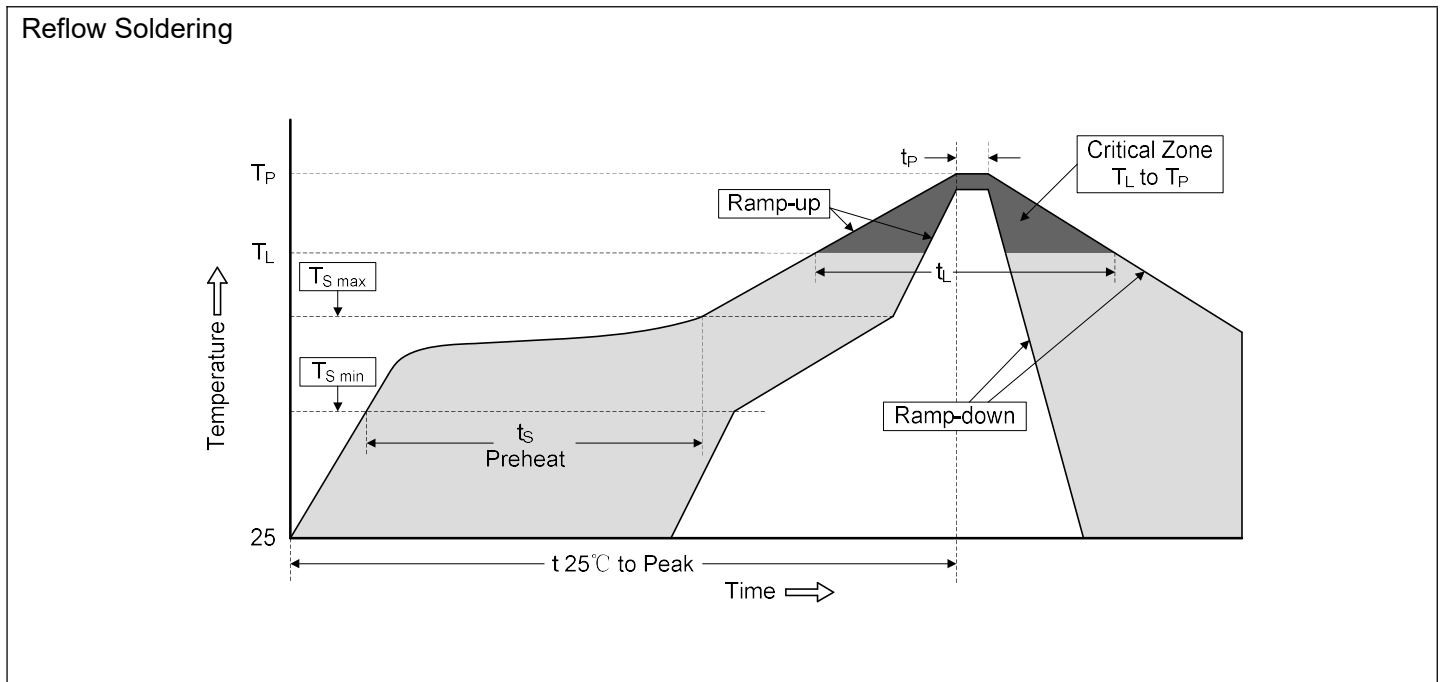
### Electrical Characteristics (T<sub>A</sub>=25°C)

Part Number	Marking	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current	Minimum Insulation Resistance		Maximum Capacitance
		100V/s	1000V/μs	8/20μs, 10 times	Test Voltage	GΩ	1MHz
2R150SM-E	None	150V±30%	750V	500A	50VDC	1	0.5pF
2R200SM-E	None	200V±30%	850V	500A	100VDC	1	0.5pF
2R230SM-E	None	230V±30%	850V	500A	100VDC	1	0.5pF
2R300SM-E	None	300V±30%	900V	500A	100VDC	1	0.5pF
2R350SM-E	None	350V±30%	950V	500A	100VDC	1	0.5pF
2R400SM-E	None	400V±30%	1000V	500A	100VDC	1	0.5pF
2R420SM-E	None	420V±30%	1000V	500A	100VDC	1	0.5pF
2R470SM-E	None	470V±30%	1100V	500A	100VDC	1	0.5pF

### Test Methods and Results

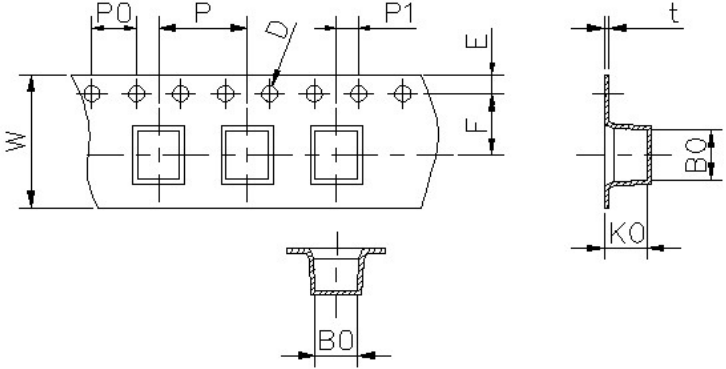
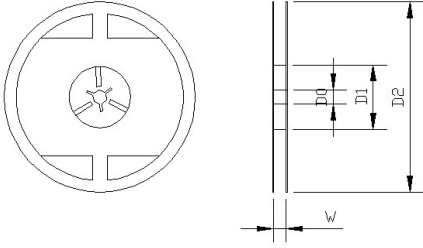
Items	Test Method	Standard
DC Spark-over Voltage	measured with voltage ramp dv/dt=100V/s.	To meet the specified value
Maximum Impulse Spark-over Voltage	measured with voltage ramp dv/dt=1000V/μs.	
Impulse Discharge Current	applied between two electrodes, 5 positive and 5 negative surges, with 3 minutes interval time,	
Insulation Resistance	measured between two electrodes.	
Capacitance	measured between two electrodes. Test frequency: 1MHz	

**Soldering Parameters**



Profile Feature	Pb-Free Assembly
Average ramp-up rate ( $T_L$ to $T_P$ )	3°C/second max.
Preheat -Temperature Min ( $T_{S\ min}$ ) -Temperature Max ( $T_{S\ max}$ ) -Time (min to max) ( $t_s$ )	150°C 200°C 60-180 seconds
$T_{S\ max}$ to $T_L$ -Ramp-up Rate	3°C/second max.
Time maintained above: -Temperature ( $T_L$ ) -Time ( $t_L$ )	217°C 60-150 seconds
Peak Temperature ( $T_P$ )	260°C
Time within 5°C of actual Peak Temperature ( $t_p$ )	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

**Packaging Specification**

Tape	Symbol	Dimension (mm)	
	W	8.0±0.2	
	P	4.0±0.2	
	P0	4.0±0.1	
	P1	2.0±0.1	
	D0	1.55±0.1	
	E	1.75±0.1	
	F	3.5±0.1	
	A0	1.9±0.1	
	K0	1.9±0.1	
	B0	3.5±0.1	
	t0	0.3±0.1	
	<p data-bbox="89 1070 150 1102">Reel</p> 	D0	13.0±1.0
		D1	60.0±2.0
		D2	178.0±2.0
W		8.5±0.2	
Quantity: 2500pcs			