

2R-E Series



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: $-40^{\circ}\text{C} \sim +90^{\circ}\text{C}$

Applications

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

Additional Information



Resources



Accessories

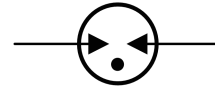


Samples

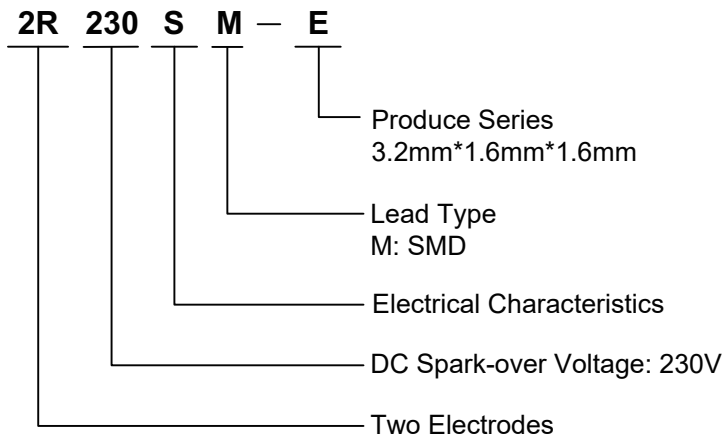
Agency Approvals

Agency	Agency File Number
	E527857

GDT Graphical Symbol




Part Number Code and Marking



None

Electrical Characteristics (T_A=25°C)

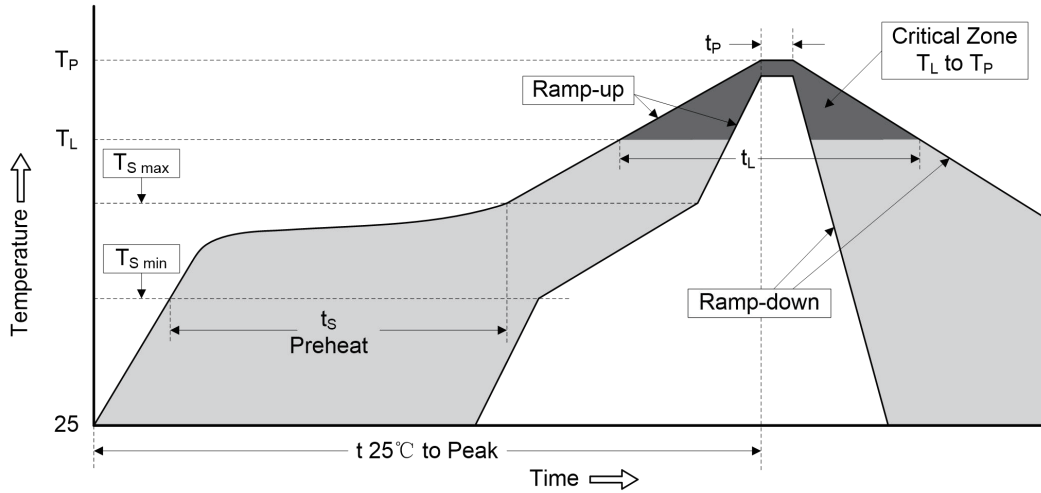
Part Number	Marking	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current	Minimum Insulation Resistance		Maximum Capacitance	Agency Approvals 
		100V/s	1000V/μs	8/20μs, 10 times	Test Voltage	GΩ	1MHz	
2R150SM-E	None	150V±30%	750V	500A	50VDC	1	0.5pF	✓
2R200SM-E	None	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

Reflow Soldering



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.

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

Packaging Specification

Tape	Symbol	Dimension (mm)
		W
	P	8.0±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
Reel	D0	13.0±1.0
	D1	60.0±2.0
	D2	178.0±2.0
	W	8.5±0.2
	Quantity: 2500pcs	