

Gas Discharge Tube: GF32R Series



SMD L4.5 x W3.2 x H2.7 mm Type

■ Features

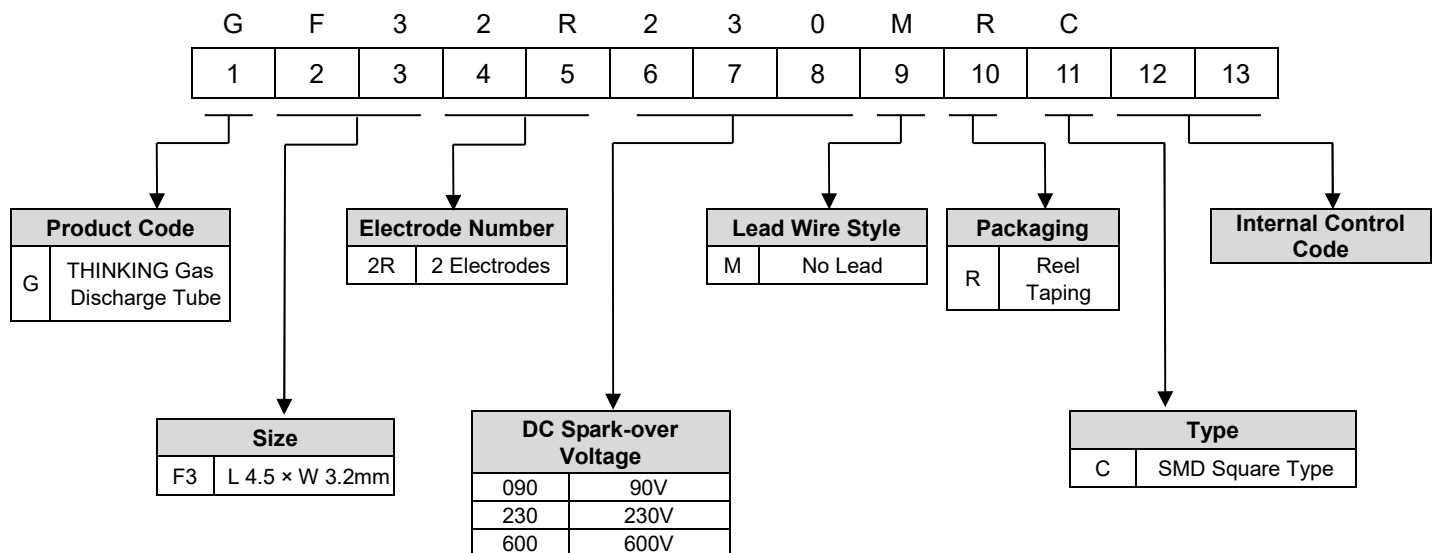
1. RoHS & HF compliant
2. SMD structure
3. DC spark-over voltage: 90~1200V
4. Low capacitance
5. Agency recognition: UL
6. Operating temperature: -40°C ~ +105°C
Storage temperature: -40°C ~ +115°C



■ Recommended Applications

1. Cable modem
2. xDSL
3. Set-top box
4. TV sets
5. Ethernet port
6. Consumer electronics

■ Part Number Code



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■ Characteristics

Part No.	DC Spark-over Voltage	Maximum Impulse Breakdown Voltage	Max. Impulse Discharge Current	Impulse Withstanding Voltage Capacity	Impulse Life	Minimum Insulation Resistance	Maximum Capacitance	Safety Approvals		
	100V/S (V)	1000V/μs (V)	8/20μs (KA)	10/700μs (KV)	8/20μs, 100A (Times)		1MHz (pF)	UL 497B		
GF32R090MRC	90 (63~117)	800	3KA (Positive/ Negative 5 Times)	6KV R=40Ω (Positive/ Negative 5 Times)	300	100 (DC 100V)	0.5	√		
GF32R120MRC	120 (84~156)	600						√		
GF32R150MRC	150 (105~195)	600						√		
GF32R200MRC	200 (140~260)	600						√		
GF32R230MRC	230 (161~299)	700						√		
GF32R300MRC	300 (210~390)	700						√		
GF32R350MRC	350 (245~455)	750	2KA (Positive/ Negative 5 Times)		6KV R=40Ω (Positive/ Negative 5 Times)			300	100 (DC 100V)	√
GF32R400MRC	400 (280~520)	850								√
GF32R420MRC	420 (294~546)	900								√
GF32R470MRC	470 (329~611)	950								√
GF32R500MRC	500 (350~650)	1000								√
GF32R600MRC	600 (420~780)	1050								√
GF32R800MRC	800 (560~1040)	1600	1KA (Positive/ Negative 5 Times)	6KV R=40Ω (Positive/ Negative 5 Times)		300	100 (DC 100V)	-		
GF32R10BMRC	1000 (700~1300)	1600						-		
GF32R12BMRC	1200 (840~1560)	1800						-		

Note1: UL 497B File No : E245070

Note2: Insulation resistance test condition:

DC Spark-over Voltage	DC Measuring Voltage
70-90V	50V
120-600V	100V
800-1000V	250V
1000-1200V	500V

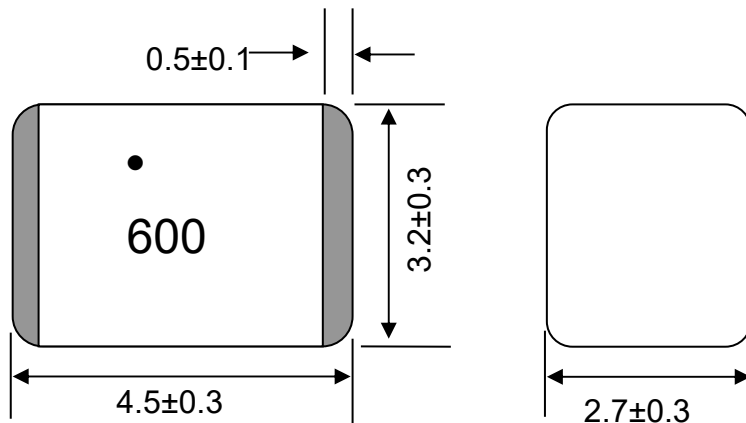
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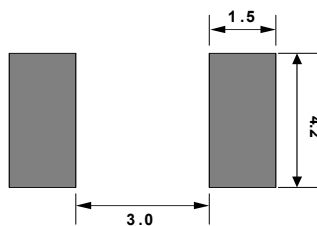
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■ Dimension

(Unit: mm)

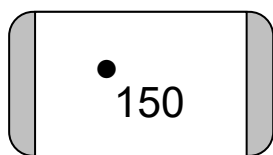


■ Recommended Pad Size



■ Marking

Example: GF32R150MRC



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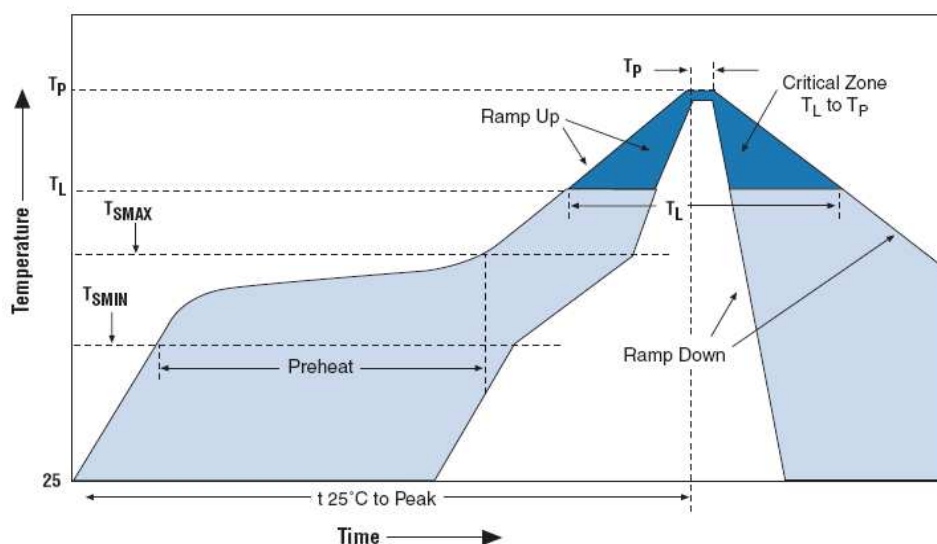


■ Soldering Recommendation

● Recommended Reworking Conditions with Soldering Iron

Item	Conditions
Temperature of Soldering Iron-tip	360°C (max.)
Soldering Time	3 sec. (max.)
Diameter of Soldering Iron-tip	Φ3mm (max.)
Caution: Please do not touch the component surface with soldering iron directly to avoid its damage.	

● IR-Reflow Soldering Profile



Lead-Free Reflow Profile Recommendation (IPC/JEDEC J-STD-020C)

Reflow Parameter	Lead-Free Assembly
Minimum preheat temperature (TsMIN)	150°C
Maximum preheat temperature (TsMAX)	200°C
Preheat Time	60-180 seconds
TsMAX to TL ramp-up rate	3°C/second maximum
Time above temperature TL(tL)	217°C 60-120 seconds
Peak Temperature (TP)	245°C ~260°C(recommended 250°C)
Time 25°C to TP	6 minute maximum
Time within 5° of Peak TP	10-20 seconds
Ramp-down rate	4°C/second maximum

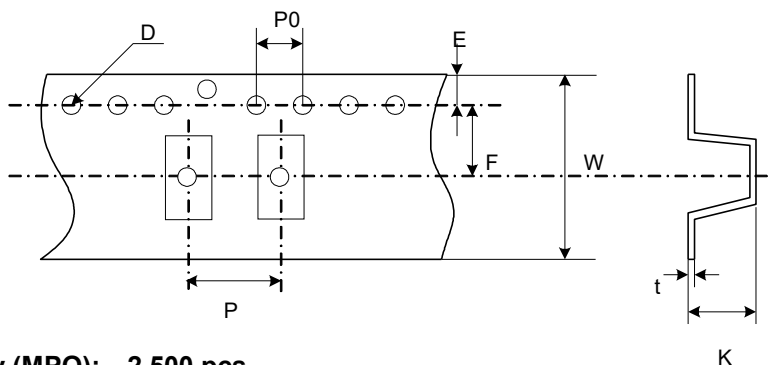
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■ Packaging

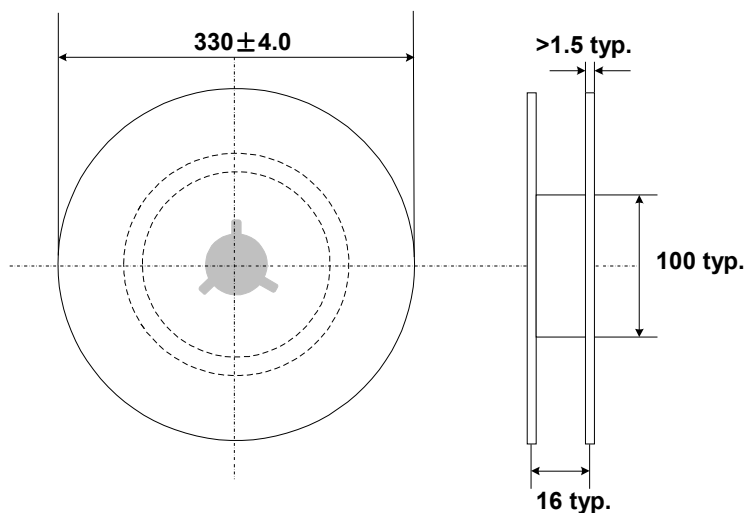
● Taping



Quantity (MPQ): 2,500 pcs

Unit: mm

ITEM	P	P0	W	F	E	D	K	t
Spec.	8.0	4.0	12.0	5.45	1.75	Φ1.55	3.1	0.4
Tolerance	±0.1	±0.1	±0.3	±0.1	±0.1	±0.05	±0.1	±0.05



■ Warehouse Storage Conditions of Products

● Storage Conditions:

1. Storage Temperature: -10°C~+40°C
2. Relative Humidity: ≤75%RH
3. Keep away from corrosive atmosphere and sunlight.

● Period of Storage: 1 year