

Gas Discharge Tube: GF42R Series



SMD 2-Electrode $\Phi 4.2/3.5 \times T4$ mm Type

■ Features

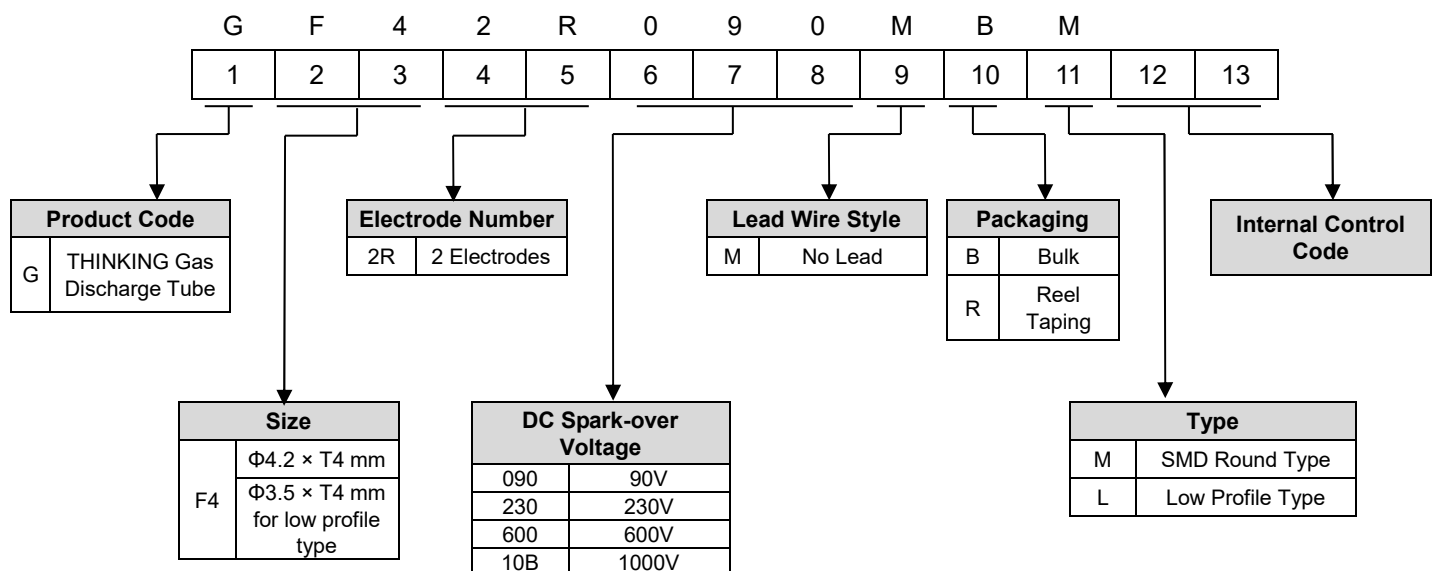
7. RoHS & HF compliant
8. SMD type series
9. DC spark-over voltage: 90~1000V
10. Low capacitance
11. Agency recognition: UL
12. Operating temperature: $-40^{\circ}\text{C} \sim +105^{\circ}\text{C}$
Storage temperature: $-40^{\circ}\text{C} \sim +115^{\circ}\text{C}$



■ Recommended Applications

1. Cable modem
2. xDSL
3. Set-top box
4. TV sets
5. Power supply
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 (8/20 μ s)		Impulse Life (10/1000 μ s)	Normal Alternating Discharge Current	DC Holdover Voltage	Minimum Insulation Resistance	Maximum Capacitance (1MHz)	Safety Approvals	
	100V/S	100V/ μ s	1KV/ μ s	1 time	10 times	100A	50Hz 1Sec	<150ms			UL 1449	UL 497B
	(V)	(V)	(V)	(KA)		(Times)	(A)	(V)				
GF42R090MRM/L	90 \pm 20%	700	800	5	3	300	3	52	1	0.5		√
GF42R145MRM/L	145 \pm 20%	700	800					52			√	
GF42R230MRM/L	230 \pm 20%	600	700					80			√	
GF42R250MRM/L	250 \pm 20%	600	700					80			√	
GF42R300MRM/L	300 \pm 20%	600	700					150			√	
GF42R350MRM/L	350 \pm 20%	650	800					150			√	
GF42R400MRM/L	400 \pm 20%	700	800					150			√	
GF42R470MRM/L	470 \pm 20%	800	900					150			√	
GF42R600MRM/L	600 \pm 20%	900	1000					150			√	
GF42R800MRM	800 \pm 20%	1300	1400	3	2	100	2	150		√		
GF42R10BMRM	1000 \pm 20%	1500	1600			100*		150	√			

Note1: M is for SMD round type; L is for low profile type

Note2: UL 497B File No: E245070; UL 1449 4th File No: E314979

Note3:* means products measured with an 8/20us waveform, 100A

Note4: Insulation resistance test condition:

DC Spark-over Voltage	DC Measuring Voltage
90-150V	50V
151-400V	100V
401-1000V	250V
1001-2000V	500V
>2001V	1000V

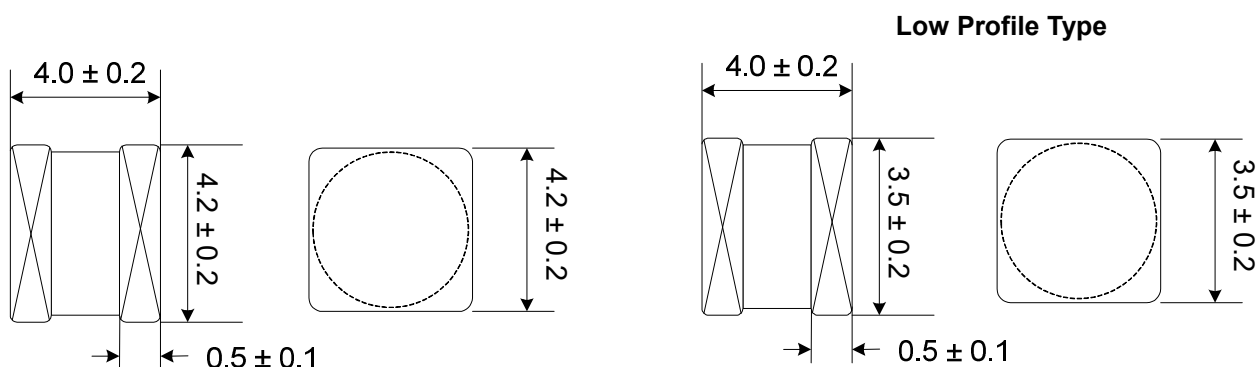
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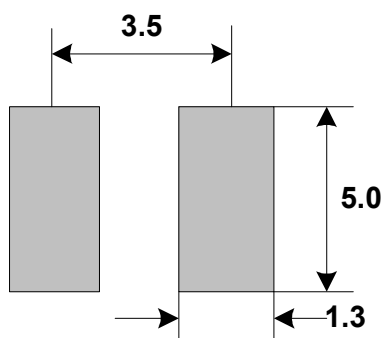
Dimension

(Unit: mm)



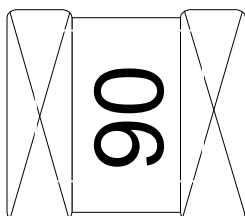
Recommended Pad Size

(Unit: mm)



Marking

Example: GF42R090MRM



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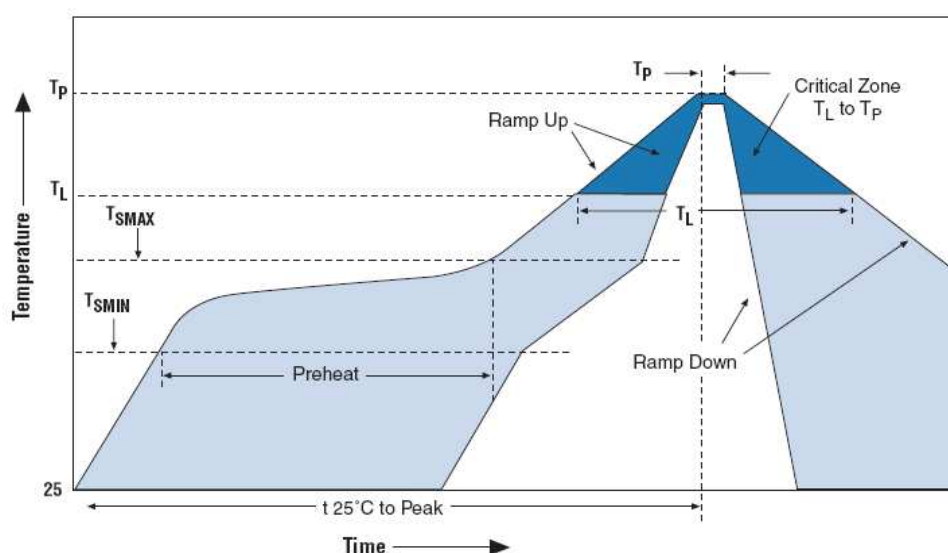


■ Soldering Recommendation

● 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	$\Phi 3$ mm (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

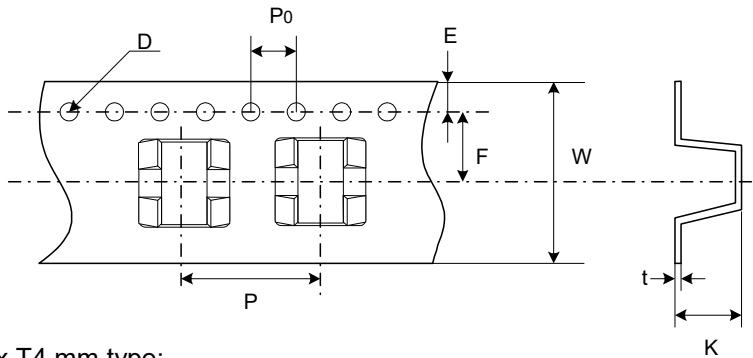
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Packaging

- Taping



◆ For $\Phi 4.2$ x T4 mm type:

Quantity (MPQ): 900pcs

(Unit: mm)

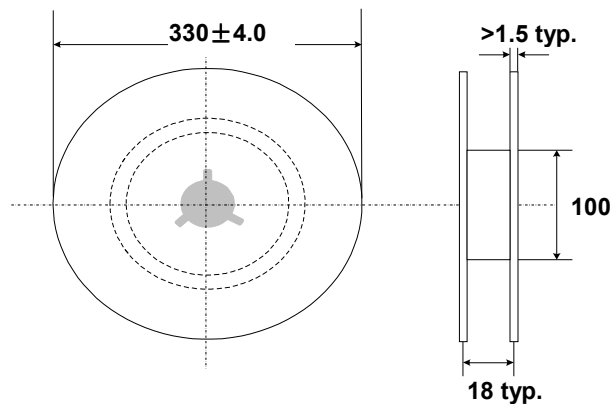
Item	P	P0	W	F	E	D	K	t
Spec.	12.0	4.0	16.0	7.5	1.75	$\Phi 1.55$	4.6	0.5
Tolerance	± 0.1	± 0.1	± 0.3	± 0.1	± 0.1	± 0.05	+0.2,-0.1	± 0.05

◆ For $\Phi 3.5$ x T4 mm low profile type:

Quantity (MPQ): 2,000pcs

(Unit: mm)

Item	P	P0	W	F	E	D	K	t
Spec.	8.0	4.0	16.0	7.5	1.75	$\Phi 1.55$	3.9	0.4
Tolerance	± 0.1	± 0.1	± 0.3	± 0.1	± 0.1	± 0.05	± 0.1	± 0.05



- Bulk

◆ For GF4 Series:

Quantity: 200pcs per PVC Box, 1200pcs per Inner Box

Quantity (MPQ): 1200pcs

Warehouse Storage Conditions of Product

- Storage Conditions:

1. Storage Temperature: $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$
2. Relative Humidity: $\leq 75\% \text{RH}$
3. Keep away from corrosive atmosphere and sunlight.

- Period of Storage: 1 year