Spark Gap (SPG) Data Sheet

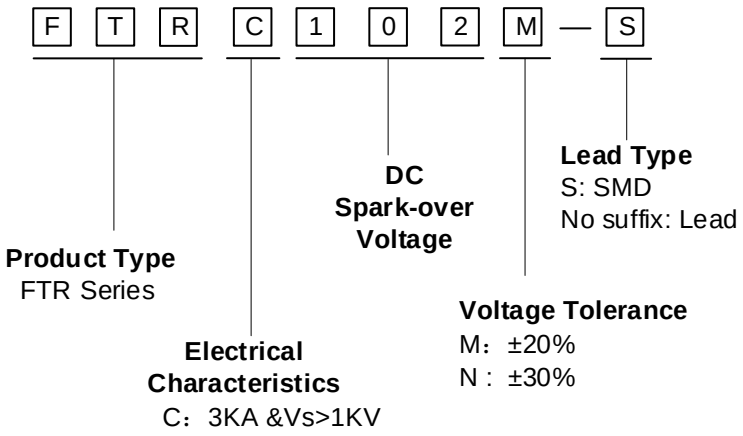
Features

- Approximately zero leaking current before clamping voltage
- Less decay at on/off state.
- High capability to withstand repeated lightning strikes.
- Low electrode capacitance(≤0.8pF) and high isolation(≥100MΩ).
- RoHS compliant.
- Bilateral symmetrical.
- Temperature, humidity and lightness insensitive.
- Operating temperature: -40℃ ~ +85℃
- Storage temperature: -40℃ ~ +125℃
- Meets MSL Level 1，per J-STD-020

Applications

- Power Supplies
- Motor sparks eliminating
- Relay switching spark absorbing
- Telephone/Fax/Modem/Antenna/Amplifies
- High frequency signal transmitters/receivers

Part Number Code

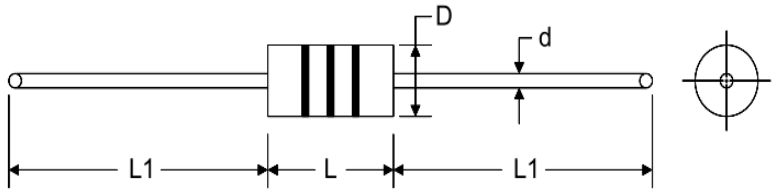


Electrical Characteristics

Part Number	DC Spark-over Voltage	Impulse Life Test	Minimum Insulation Resistance		Maximum Capacitance	Nominal Impulse Discharge Current
	Vs	8/20us 100A	Test Voltage	（MΩ）	(1MHz 1V)	8/20us
	(v)	(times)	DC(V)		(pF)	(A)
FTRC202X	2000	300	500	100	1.0	3000
FTRC242X	2400	300	500	100	1.0	3000
FTRC272X	2700	300	500	100	1.0	3000
FTRC302X	3000	300	500	100	1.0	3000
FTRC362X	3600	300	500	100	1.0	3000
FTRC402X	4000	300	500	100	1.0	3000
FTRC452X	4500	300	500	100	1.0	3000
FTRC502X	5000	300	500	100	1.0	3000

NOTES: X=M(Vs±20%)&X=N(Vs±30%)

Dimensions



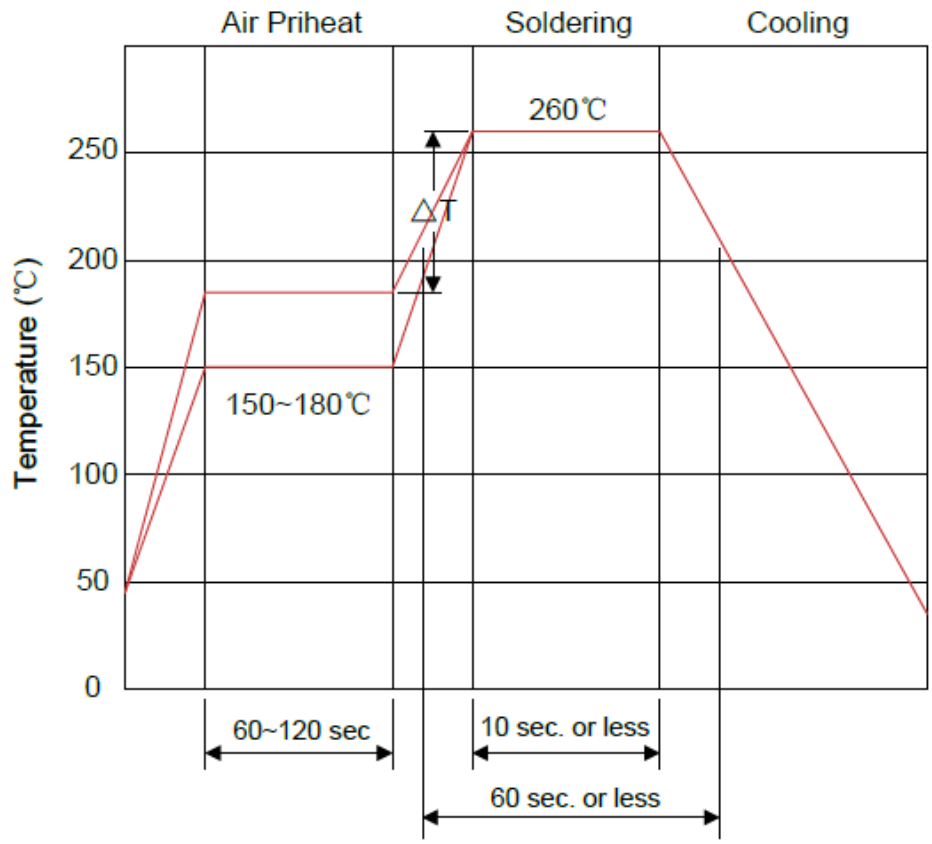
Symbol	Dimension (mm)
L	6.70±0.50
L1	28.00±3.00
D	Φ3.10±0.50
d	Φ0.50±0.05

Electrical Ratings

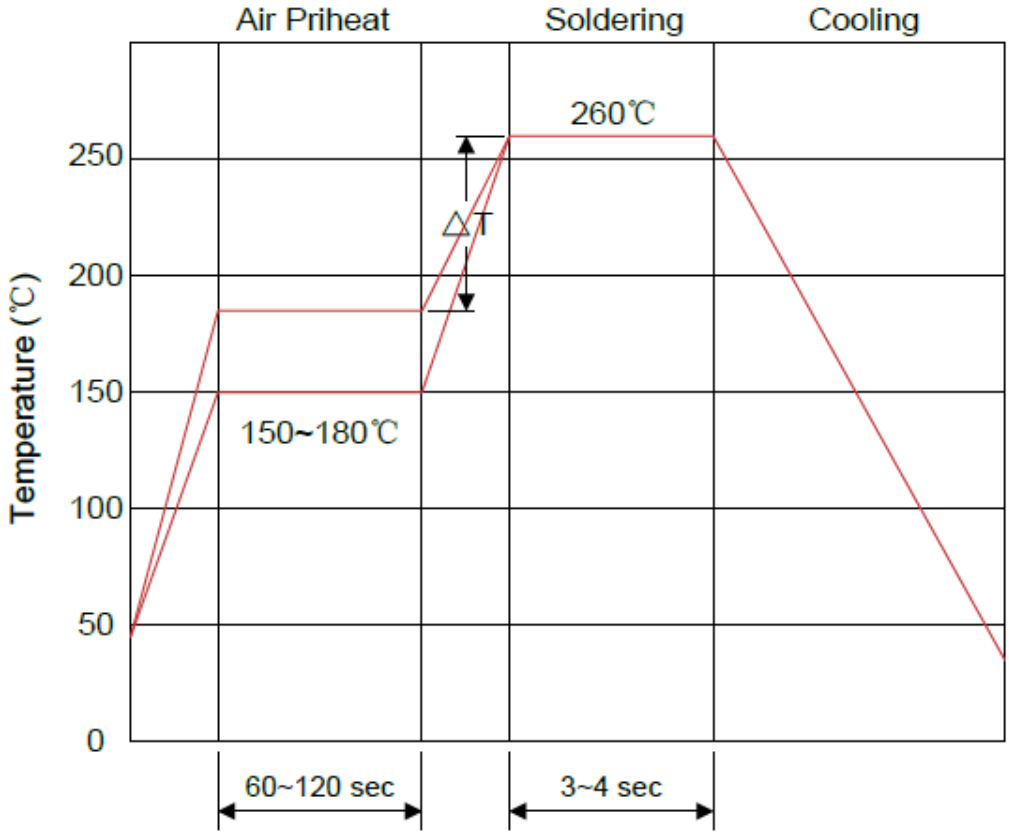
Items	Test Condition/Description	Standard
DC spark-over voltage	Measure starting discharge voltage (Vs) by gradually increasing applied DC voltage. Test current is 0.5mA max. And the DC voltage ascends up within 500V/second.	Meet specified value.
Capacitance	Measure the electrostatic capacitance by applying a voltage of less than 6V (at 1KHz) between terminals.	
Insulation Resistance	Measure the insulation resistance across the terminal at regular voltage. But the test voltage doesn't over the DC spark-over voltage.	
Static Life	10KV with 1500pf condenser is discharged through 0Ω resistor. 200 times at an interval of 10sec.	| ΔVs/Vs | ≤30% Characteristics of other items must meet the specified value.
Surge Current Capacity	Charge a 1.2/50μs & 8/20μs, 2000A, and apply it to the sample. Do this 10 time. Or 3000A, 1 time.	No crack and no failures
Surge Life	Apply a standard impulse current (8/20μs of 100A) for 300 times at 60 seconds intervals.	
Cold Resistance	Measurement after -40℃/1000 HRS & normal temperature/2 HRS.	Features are conformed to rated spec.
Heat Resistance	Measurement after 125℃/1000 HRS & normal temperature/2 HRS.	
Humidity Resistance	Measurement after humidity 90~95℃(45℃) /1000 HRS & normal temperature/2 HRS.	
Temperature Cycle	10 times repetition of cycle -40℃/30min →normal, temp/2 min →125℃ /30min, measurement after normal temp/2 HRS.	
Solder Ability	Apply flux and immerse in molten solder 230±5℃ for 3sec up to the point of 1.5mm from body. Check for solder adhesion.	Lead wire is evenly covered by solder.
Solder Heat	Measurement after lead wire is dipped up to the point of 1.5mm from body into 260±5℃ solder for 10sec.	Conformed to rated spec.
Pull Strength	Apply 0.5kg load for 10sec.	Lead shall not pull out to snap.
Flexural Strength	Bend lead wire at the point of 2mm from body under 0.25 load and back to its original point. Repeat 1 time.	

Soldering Recommendation

Reflow Soldering

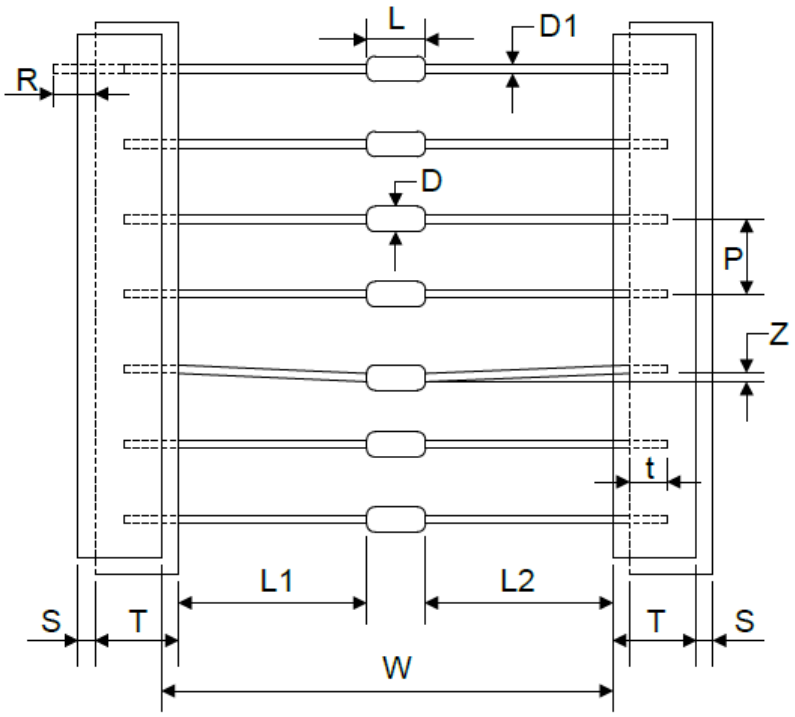


Wave Soldering



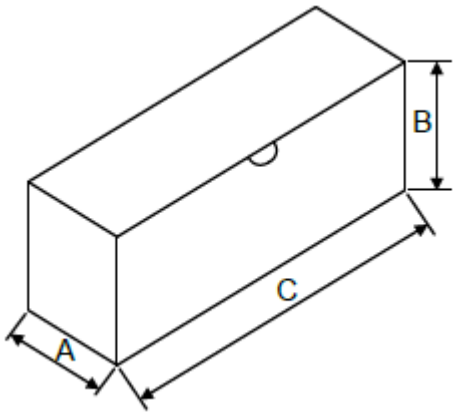
Packaging

Tape



Symbol	Dimension（mm）
W	52.00±1.50
P	10.00±0. 50
L1-L2	1.0max.
T	6.00±1.00
Z	1.2max.
R	Terminals must not project from tape.
t	3.2max.
S	0.8max.
D	Φ4.6max.
D1	φ0.5±0.05
L	10.5max.

Inner Box



A	75.0±5.0
B	114.0±5.0
C	250.0±5.0

Quantity: 1000PCS