Gas Discharge Tube (GDT) Data Sheet

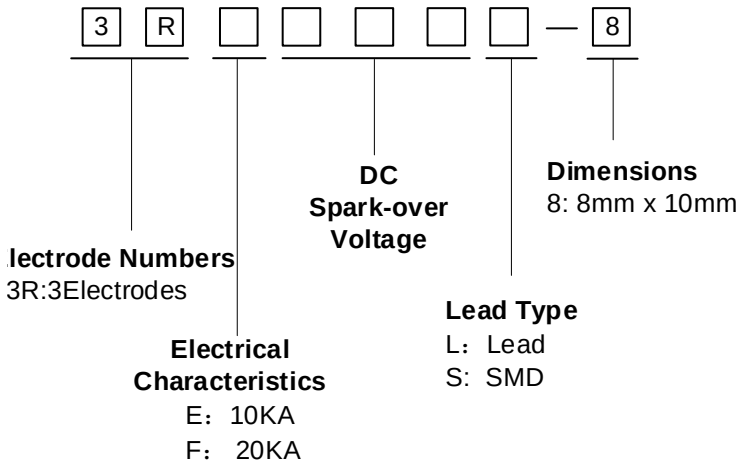
Features

- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/μs
- Low capacitance（≤ 2pF）
- High insulation resistance
- High holdover voltage
- Stable breakdown voltage
- Large absorbing transient current capability
- Micro-Gap Design
- Operating and Storage Temperature ：-40℃ ~ +125℃
- Meets MSL Level 1，per J-STD-020

Applications

- Telephone Interface, Line cards
- Data communication equipment
- Line test equipment
- Repeaters, Modems

Part Number Code



Electrical Characteristics

Part Number		DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Impulse Life Test	Minimum Insulation Resistance		Maximum Capacitance	Nominal Impulse Discharge Current	Alternating Discharge Current	Device Marking Code
		100V/S	1KV/us	10/1000us 100A	Test Voltage	（GΩ）	(1MHz 1V)	8/20us	50Hz,1S	
		(v)	(v)	(times)	DC(V)		(pF)	(KA)	(A)	
3RE075L-8	3RE075S-8	75±20%	700	300	25	1	2.0	10	10	3RE075-8
3RE090L-8	3RE090S-8	90±20%	700	300	50	1	2.0	10	10	3RE090-8
3RE150L-8	3RE150S-8	150±20%	700	300	100	1	2.0	10	10	3RE150-8
3RE200L-8	3RE200S-8	200±20%	700	300	100	1	2.0	10	10	3RE200-8
3RE230L-8	3RE230S-8	230±20%	700	300	100	1	2.0	10	10	3RE230-8
3RE350L-8	3RE350S-8	350±20%	850	300	100	1	2.0	10	10	3RE350-8
3RE400L-8	3RE400S-8	400±20%	850	300	100	1	2.0	10	10	3RE400-8
3RE470L-8	3RE470S-8	470±20%	950	300	250	1	2.0	10	10	3RE470-8
3RE600L-8	3RE600S-8	600±20%	1300	300	250	1	2.0	10	10	3RE600-8
3RE800L-8	3RE800S-8	800±20%	1500	300	250	1	2.0	10	10	3RE800-8

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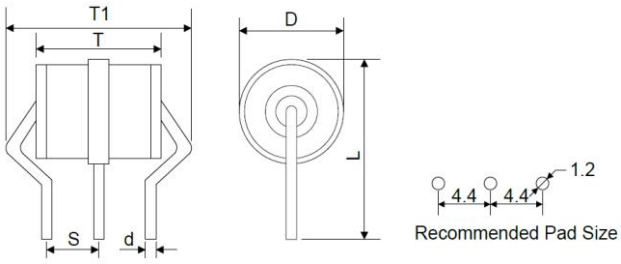
		100V/S	1KV/us	10/1000us 100A	Test Voltage	（GΩ）	(1MHz 1V)	8/20us	50Hz,1S	
		(v)	(v)	(times)	DC(V)		(pF)	(KA)	(A)	
3RF075L-8	3RF075S-8	75±20%	700	300	25	1	2.0	20	20	3RF075-8
3RF090L-8	3RF090S-8	90±20%	700	300	50	1	2.0	20	20	3RF090-8
3RF150L-8	3RF150S-8	150±20%	700	300	100	1	2.0	20	20	3RF150-8
3RF200L-8	3RF200S-8	200±20%	700	300	100	1	2.0	20	20	3RF200-8
3RF230L-8	3RF230S-8	230±20%	700	300	100	1	2.0	20	20	3RF230-8
3RF350L-8	3RF350S-8	350±20%	850	300	100	1	2.0	20	20	3RF350-8
3RF400L-8	3RF400S-8	400±20%	850	300	100	1	2.0	20	20	3RF400-8
3RF470L-8	3RF470S-8	470±20%	950	300	250	1	2.0	20	20	3RF470-8
3RF600L-8	3RF600S-8	600±20%	1300	300	250	1	2.0	20	20	3RF600-8
3RF800L-8	3RF800S-8	800±20%	1500	300	250	1	2.0	20	20	3RF800-8

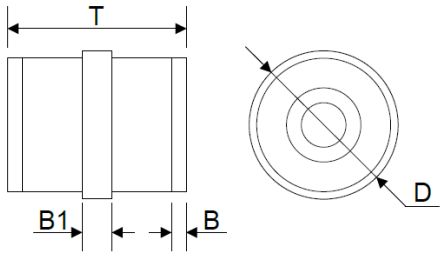
Dimensions

L Type



Symbol	Dimension (mm)
D	8.00±0.80
T	10.00±0.50
T1	12.00±0.50
L	15.00±0.50

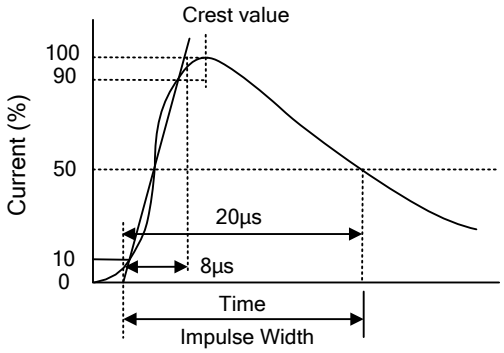
S Type



D	8.00±0.80
T	10.00±0.50
B	0.50±0.10
B1	1.50±0.20

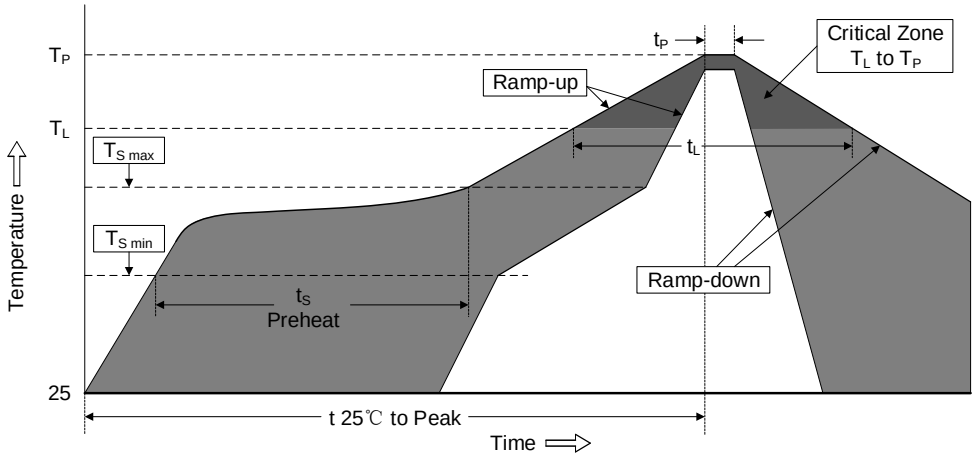
Notes: This type is not suitable for PCB soldering.

Electrical Ratings

Items	Test Condition/Description	Requirement
DC spark-over voltage	The voltage is measured with voltage ramp dv/dt=100V/s.	To meet the Specified value
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp dv/dt=1000V/μs.	
Insulation Resistance	The resistance of gas tube shall be measured between two electrodes.	
Capacitance	The capacitance of gas tube shall be measured between two electrodes. Test frequency: 1MHz	
Impulse Discharge Current	Maximum 8/20μs surge current that can be applied between two electrodes, 5 positive and 5 negative surges, with 3 minutes interval time, without causing the DC spark-over voltage to change more than 25% from its initial value. 	
Alternating Discharge Current	Rated RMS value of AC current at 50Hz, 1 sec. for 10 times with interval time 3 min. DC spark-over voltage shall not change more than ±25% from its initial value.IR＞10^8 ohms (-20%, +30% for 70~90V).	

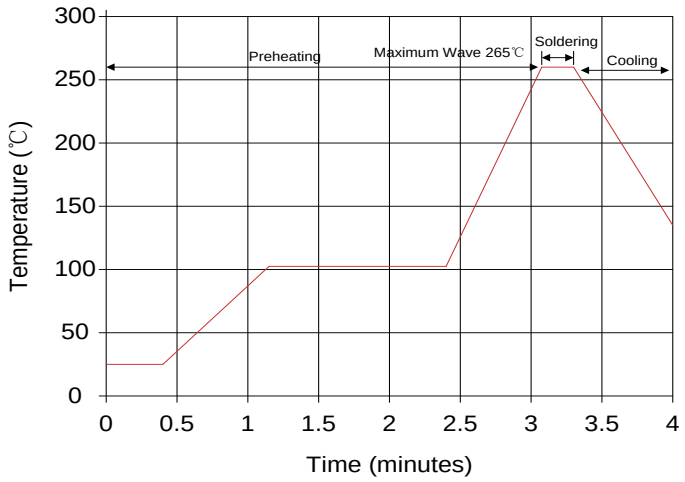
Soldering Recommendation

Reflow Soldering



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

Wave Soldering

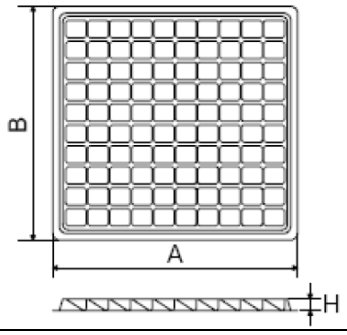


Item	Conditions
Peak Temperature	265℃
Dipping Time	10 seconds(max.)
Soldering	1 time

Packaging

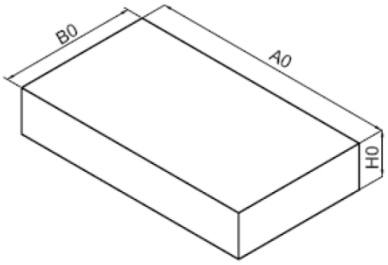
Axial Packing

Sking packing



Symbol	Dimension (mm)
A	217 ± 2.0
B	207 ± 2.0
H	10.3 ± 0.5
Quantity:100pcs	

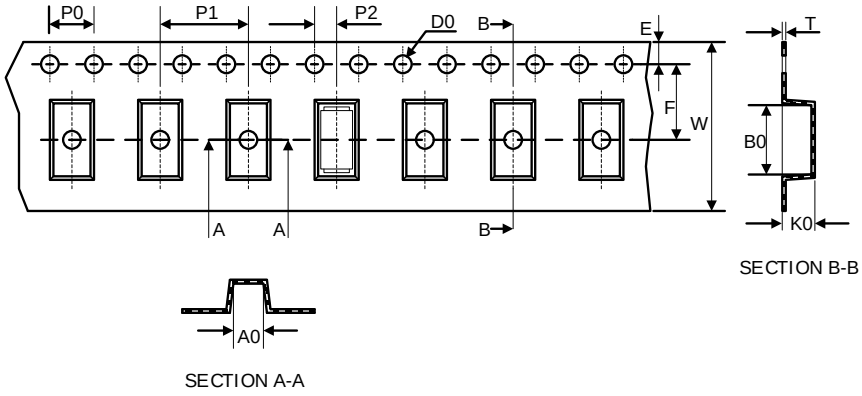
Inner box



A0	225 ± 2.0
B0	210 ± 2.0
H0	60 ± 2.0
Quantity: 500pcs	

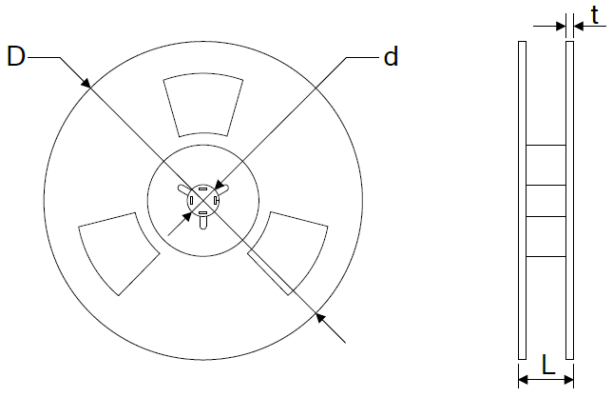
SMD packing

Tape



Symbol	Dimension (mm)
W	16.00±0.20
P0	4.00±0.10
P1	16.00±0.10
P2	2.00±0.10
D0	Φ1.55±0.05
E	1.75±0.10
F	7.50±0.10
A0	11.60±0.1
B0	10.00±0.1
K0	8.90±0.1
T	0.50±0.05

Reel



D	330.0±2.0
d	13.0±0.5
L	20.0±2.0
t	2.0±0.2
Quantity: 300PCS	