

SURGiNG

紹 鑫 實 業



Surge Arresters

陶瓷气体放电管

SE3 Series

Gas Discharge Tubes - SE3 Series

Features



- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/μs.
- Stable breakdown voltage.
- High insulation resistance.
- Low capacitance (≤2pF)
- High holdover voltage
- Large absorbing transient current capability.
- Micro-Gap Design
- Size: 6.0mm*8mm
- Storage and operational temperature: -40°C ~ +85°C
- Meets MSL level 1, per J-STD-020
- Safety certification: UL: E244458

Applications

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

Part Number Code

SE3 3 - 230X F

Series:

SE3系列: φ6*8
SE8系列: φ8*10

LeadType:

0=SMD
3=Thrust

DCLineVoltage:

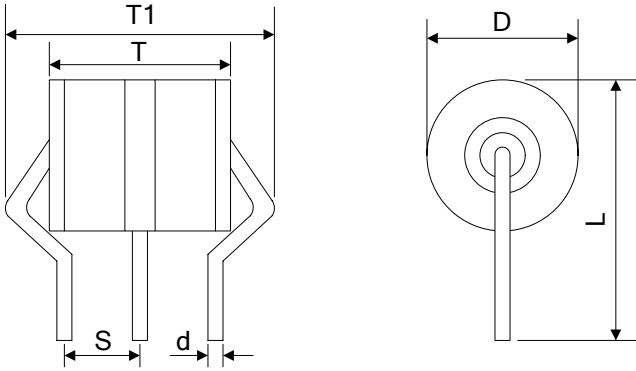
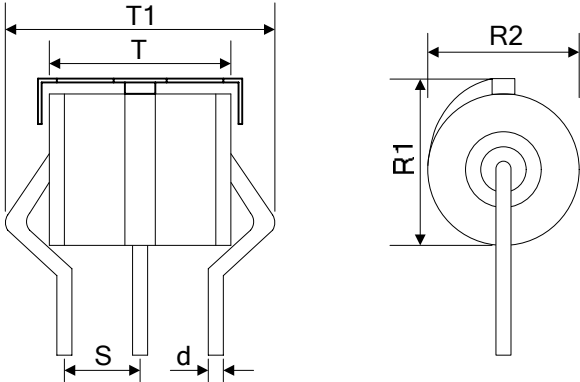
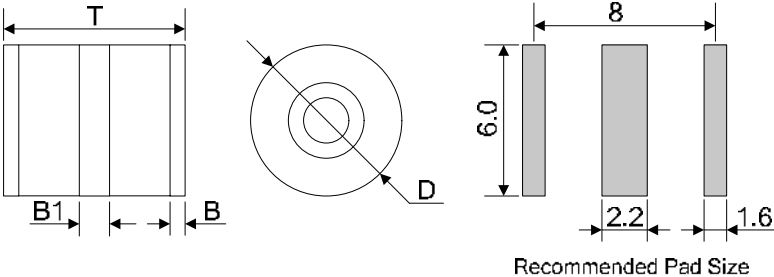
90X=90V
230X=230V
102X=1000V

Package:

F=With Fail-Short mechanism

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Dimensions

33 Type		Dimension (mm)		
		Symbol	Spec.	Tolerance
		D	6.0	+0.2, -0.5
		T	8	±0.5
		T1	15.0	Max.
		L	16.0	Max.
33-F Type		S	3.8	±0.3
		d	0.8	±0.1
		R1	7.8	±0.4
		R2	6.3	±0.3
30 Type		D	6.0	±0.2
		T	8	±0.5
		B	1.0	±0.1
		B1	1.5	±0.2
		Recommended Pad Size	6.0, 8, 2.2, 1.6	

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Electrical Characteristics

Part Number		DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current	Alternating Discharge Current	Impulse Life	Minimum Insulation Resistance		Maximum Capacitance
		100V/s	1000V/ μ s	8/20 μ s 10times	50Hz, 1sec	10/1000 μ s 100A	Test Voltage	(G Ω)	1MHz
		(V)	(V)	(KA)	(A)	(times)	DC(V)		(pF)
SE33-75X	SE30-75X	75 \pm 20%	750	10	5.0	200	25	1.0	2.0
SE33-90X	SE30-90X	90 \pm 20%	750	10	5.0	200	50	1.0	2.0
SE33-100X	SE30-100X	100 \pm 20%	750	10	5.0	200	50	1.0	2.0
SE33-110X	SE30-110X	110 \pm 20%	750	10	5.0	200	50	1.0	2.0
SE33-150X	SE30-150X	150 \pm 20%	800	10	5.0	200	100	1.0	2.0
SE33-230X	SE30-230X	230 \pm 20%	800	10	5.0	200	100	1.0	2.0
SE33-250X	SE30-250X	250 \pm 20%	800	10	5.0	200	100	1.0	2.0
SE33-300X	SE30-75X	300 \pm 20%	800	10	5.0	200	100	1.0	2.0
SE33-350X	SE30-350X	350 \pm 20%	850	10	5.0	200	100	1.0	2.0
SE33-470X	SE30-470X	470 \pm 20%	950	10	5.0	200	250	1.0	2.0
SE33-600X	SE30-600X	600 \pm 20%	1300	10	5.0	200	250	1.0	2.0
SE33-800X	SE30-800X	800 \pm 20%	1500	10	5.0	200	250	1.0	2.0

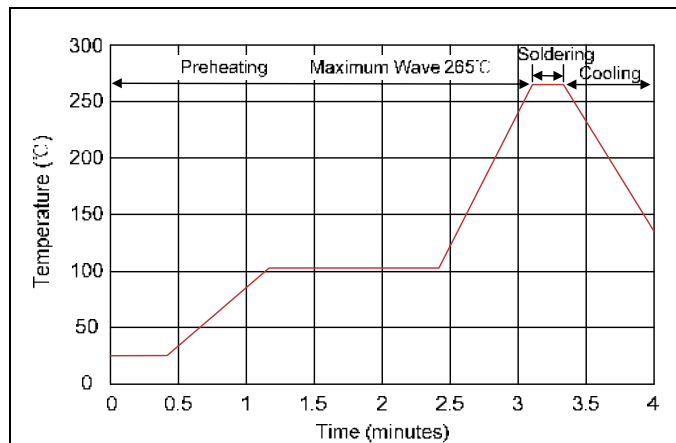
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Electrical Ratings

Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt=100V/s$. Test is between each side electrode and center electrode.	To meet the specified value
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp $dv/dt=1000V/\mu s$. Test is between each side electrode and center electrode.	
Impulse Discharge Current	<p>Maximum surge current that can be applied through center electrode with $8/20\mu s$ waveform, for 10 times with 3min interval time, which will be equally divided between each side electrode to center electrode, without causing the DC breakdown voltage to change more than 25% from its initial measured value.</p> <p style="text-align: center;"> <small> Crest value 100 90 50 10 0 Current (%) </small> </p> <p style="text-align: center;"> <small> 20µs 8µs Time Impulse Width </small> </p>	
Alternating Discharge Current	<p>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 $\pm 25\%$ from its initial value. Test is between each side electrode and center electrode.</p> <p>$IR > 10^8$ ohms (-20%, +30% for 70~90V).</p>	
Insulation Resistance	The resistance of gas tube shall be measured between each side electrodes and center electrode.	
Capacitance	<p>The capacitance of gas tube shall be measured between each side electrodes and center electrode.</p> <p>Test frequency: 1MHz</p>	

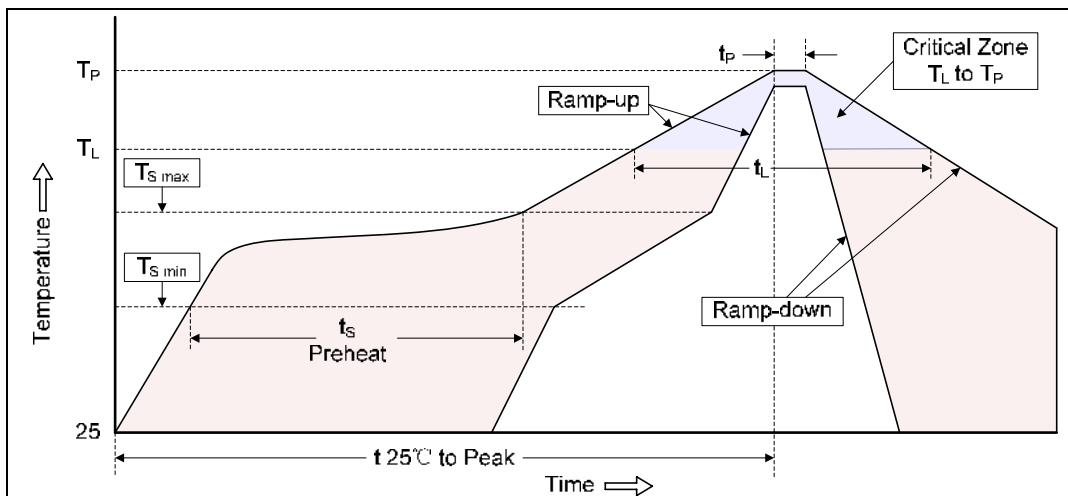
Recommended Soldering Conditions

Wave Soldering



Item	Conditions
Peak Temperature	265°C
Dipping Time	10 seconds
Soldering	1 time

Reflow Soldering

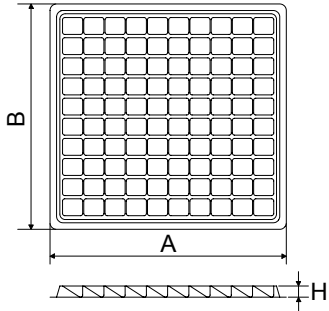
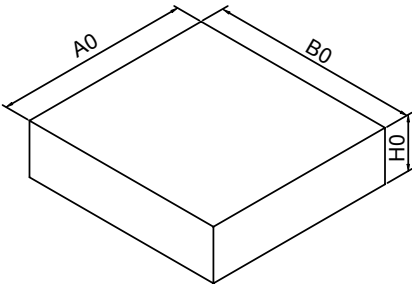


Profile Feature	Pb-Free Assembly
Average ramp-up rate (TL to TP)	3°C/second max.
Preheat	
-Temperature Min (TSmin)	150°C
-Temperature Max (TSmax)	200°C
-Time (min to max) (ts)	60-180 seconds
TSmax to TL	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (TL)	217°C
-Time (tl)	60-150 seconds
Peak Temperature (TP)	260°C
Time within 5°C of actual Peak Temperature (tp)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

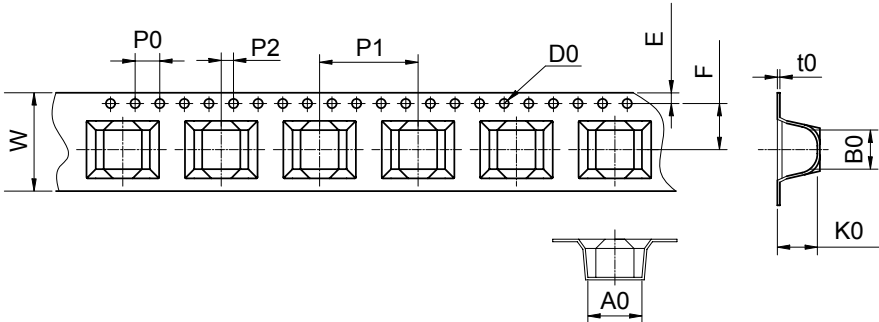
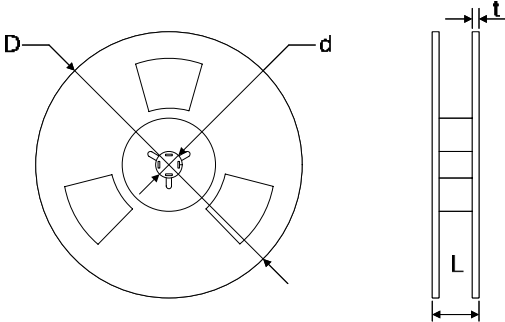
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Packaging

Axial Packing (Bulk)

Skin packing		Symbol	Dimension (mm)	
			Spec.	Tolerance
		A	217.0	±1.0
		B	207.0	±1.0
		H	10.3	±0.2
Quantity: 100pcs				
Inner box		A0	338.0	±1.0
		B0	336.0	±1.0
		H0	58.0	±1.0
Quantity: 500pcs				

SMD Packing (Tape & Reel)

Tape		Symbol	Dimension (mm)	
			Spec.	Tolerance
		W	16.00	±0.20
		P0	4.00	±0.10
		P1	16.00	±0.10
		P2	2.00	±0.10
		D0	1.55	±0.05
		E	1.75	±0.10
		F	7.50	±0.10
		A0	8.80	±0.10
		K0	6.20	±0.10
		B0	6.35	±0.10
		t0	0.50	±0.05
Reel		D	330.00	±1.00
		d	13.00	±0.50
		L	20.00	±0.50
		t	2.00	±0.20
Quantity: 600pcs				