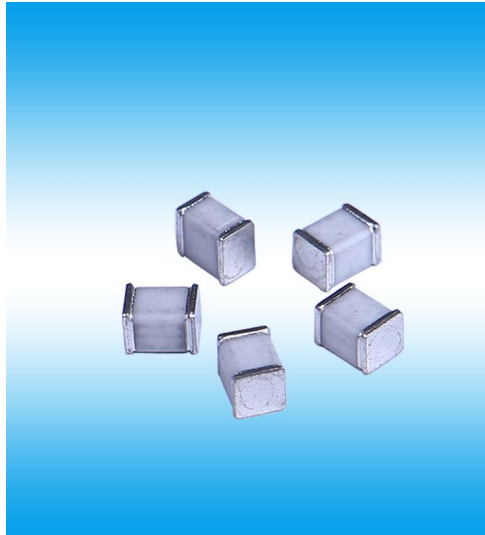


Type KW3S2R/4532 Series /Gas Discharge Tube贴片氣體放電管



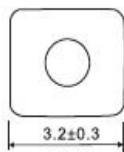
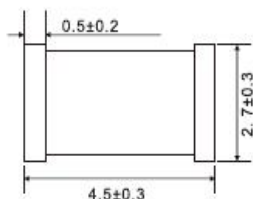
**Features**产品特征

- Small Size Design EIA 1812/4.5\*3.2\*2.7mm  
小型设计 EIA 1812/ 4.5\*3.2\*2.7mm
- Current Handling Capability 2KA@8/20μs  
2 KA@8/20 μs电流处理能力
- Low Capacitance and Insertion Loss  
低电容和低插入损耗
- Fast Response and Long Service Life  
响应快, 使用寿命长
- Reliable to Protect Electrostatic Surge  
可靠的静电浪涌保护
- Moisture sensitivity level:Level 1  
湿度敏感等级:1级

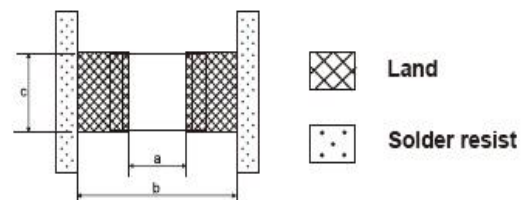
**Applications**产品应用

- CATV modem, Telecom protection  
有线电视调制解调器, 电信的保护
- Hub protection, Security systems  
中心保护, 安全系统
- Data acquisition and Audio systems  
数据采集和音频系统
- Set-Top box protection  
机顶盒的保护
- MDC/PCI modems  
MDC / PCI调制解调器

**Dimensions(Unit:mm)**尺寸 (单位: mm)



**Recommended Land Pattern**焊盘尺寸



Soldering Moder	Dimensions (mm)		
	a	b	c
Reflow Soldering	2.7	6.5~8.5	3.4
Flow Soldering	2.9	6.5~9.5	3.6

**Agency Approvals**认证

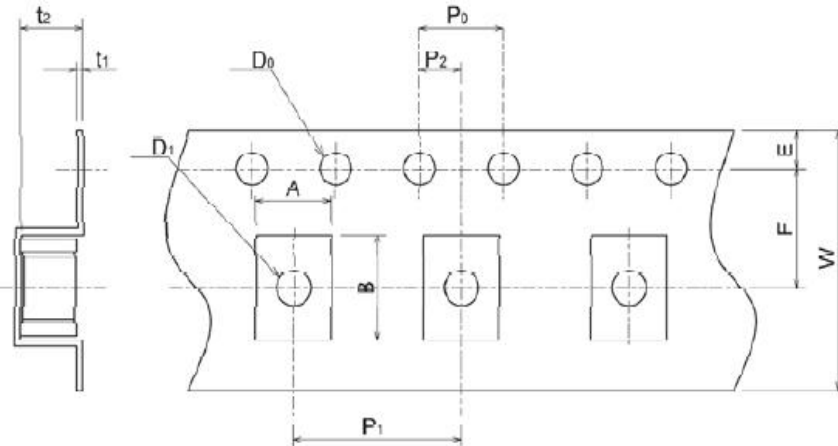
Icon	Description
RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003
	Mean Lead free
	Compliance with UL497B, Certificated E324754

Type KW3S2R/4532 Series /Gas Discharge Tube 贴片氣體放電管

Electrical Specifications 电气特性

Catalog Number	DC Spark-Over Voltage 100V/s Vs(V)	Impulse Spark-Over 1KV/ $\mu$ s Vis(V)Max	Nom Impulse Discharge Current $10 \times 700 \mu$ s (KV)	Nom Impulse Discharge Current $8 \times 20 \mu$ s (KA)	Insulation Resistance		Capacitance C 1MHz < 6V pF Max
					Min. M $\Omega$	DC V	
KW3S2R75	75V $\pm$ 30%	700	4.0	2.0	1000	50	1
KW3S2R90	90V $\pm$ 30%	700	4.0	2.0	1000	50	1
KW3S2R140	140V $\pm$ 30%	700	4.0	2.0	1000	50	1
KW3S2R150	150V $\pm$ 30%	700	4.0	2.0	1000	50	1
KW3S2R200	200V $\pm$ 20%	600	4.0	2.0	1000	100	1
KW3S2R230	230V $\pm$ 20%	600	4.0	2.0	1000	100	1
KW3S2R300	300V $\pm$ 20%	800	4.0	2.0	1000	100	1
KW3S2R350	350V $\pm$ 20%	800	4.0	2.0	1000	100	1
KW3S2R400	400V $\pm$ 20%	900	4.0	2.0	1000	100	1
KW3S2R420	420V $\pm$ 20%	900	4.0	2.0	1000	100	1
KW3S2R470	470V $\pm$ 20%	900	4.0	2.0	1000	250	1
KW3S2R600	600V $\pm$ 20%	1000	4.0	2.0	1000	250	1

Packaging and Type Designation 包装和型号名称



符号	尺寸 (mm)
A	3.6 $\pm$ 0.2
B	4.9 $\pm$ 0.2
W	12 $\pm$ 0.3
F	5.5 $\pm$ 0.05
E	1.75 $\pm$ 0.1
P <sub>1</sub>	8.0 $\pm$ 0.1
P <sub>2</sub>	2.0 $\pm$ 0.05
P <sub>0</sub>	4.0 $\pm$ 0.1
D <sub>0</sub>	$\phi$ 1.5 $\pm$ 0.1
D <sub>1</sub>	$\phi$ 1.65 $\pm$ 0.15
t <sub>1</sub>	0.30 $\pm$ 0.1
t <sub>2</sub>	3.0 $\pm$ 0.2

Formation of Type Designation 类型命名的形成

Example: KW - 3 - S - 2R-90- N-0-S  
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

Symbols 符号表

① Company code	KW=Kingwahoo product
② Rated diameter	2=2mm diameter 3=3mm diameter 5=5mm diameter...
③ Load Configuration	A=Axial loads M=Radial loads l E=Radial Loads 2 S=SMD structure B=No load
④ Electrode amount	2R=2electrode device 3R=3 electrode device
⑤ DC Spark-over Voltage	75=75V 150=150V...
⑥ Surge rating	L=0.5KA T=1KA U=1.5KA N=2KA S=2.5KA R=5KA M=10KA H=20KA W:>20KA
⑦ Fail safe (FS)	F=With Fail Safe 0=Without Fail Safe
⑧ Package	B=Bulk Packing R=Reel Taping S=SMD Taping 0=No Require

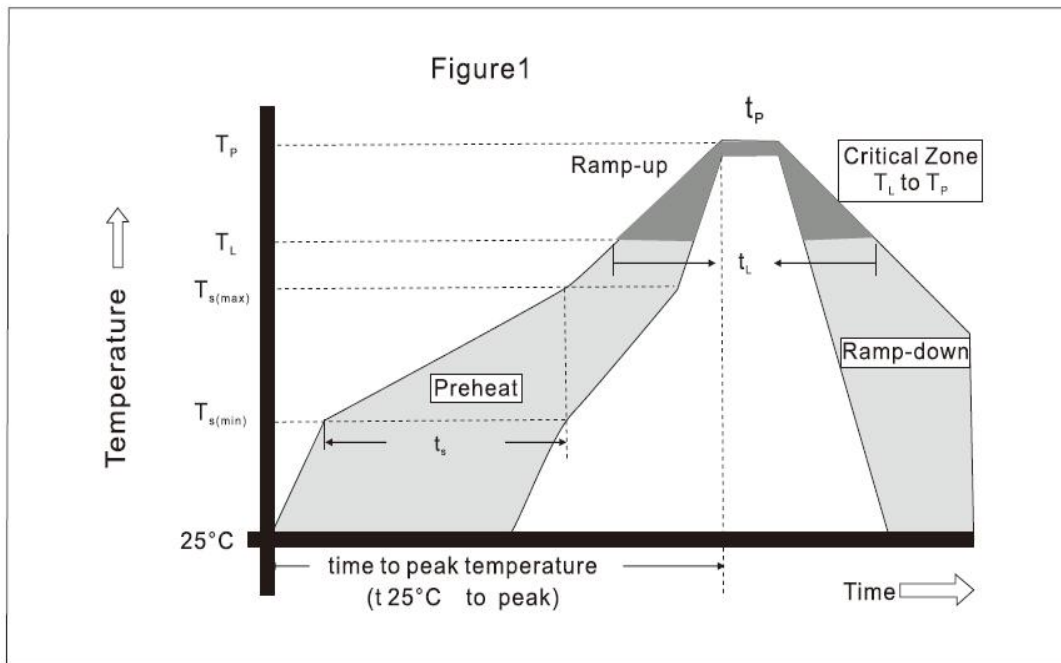
Packaging

On Taping: KW3S2R series-2000pcs Per Reel, 8000PCS in box, 40000pcs Outer box.

**Type KW3S2R/4532 Series /Gas Discharge Tube 贴片氣體放電管**

**Soldering Parameters 焊接参数**

Reflow Condition 回流条件		Pb-Free assembly 无铅制程
Heat Pre	Temperature Min ( $T_s$ )	150°C
	Temperature Max ( $T_s$ )	200°C
	Time (Min to Max) ( $t_s$ )	60-180secs
Average ramp up rate (Liquidus) Temp ( $T_L$ ) to peak		3°C/second max
$T_s$ (max) to $T_L$ -Ramp-up Rate		5°C/second max
Reflow	-Temperature ( $T_L$ ) (Liquidus)	217°C
	Time (Min to Max) ( $t_L$ )	60-150 seconds
Peak Temperature ( $T_p$ )		260 <sup>-0/-5</sup> °C
Time within 5°C of actual peak Temperature ( $t_p$ )		8-20 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature ( $T_p$ )		8 minutes max.
Do not exceed		260°C



**Type KW3S2R/4532 Series /Gas Discharge Tube 贴片氣體放電管**

**Solderability test 可焊性试验**

Solderability	
Solder Pot Temperature	245±5℃
Sloder Dwell Time	4-6 seconds

**Environmental Reliability Characteristics 环境可靠性条件**

Testing items	Technical standards
High Temperature Storage Test	Temperature:85℃ Time:2H
Low Temperature Storage Test	Temperature:-40℃ Time:2H
Vibration	Frequency:100-500Hz Amplitude:0.15mm Time:45mins
Resistance of soldering heat	Temperature:260±5℃ Time of dip soldering:10s, 1 time

**Temperature Range 温度范围**

- ➡ Operating temp range:-55℃ to +125℃
- ➡ Storage temp range:-40℃ to +85℃