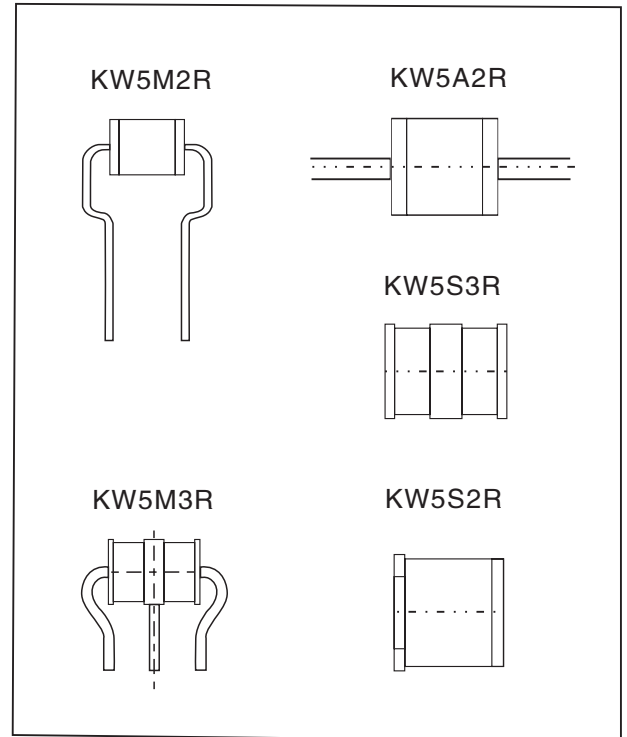


KW5S2R/KW5A2R/KW5M3R/KW5S3R/KW5M2R Series Gas Discharge Tube (GDT) Products

Description

Gas discharge Tubes (GDT) are classical components for protecting the installations of the telecommunications. It is essential that IT and telecommunications systems with their high-grade but sensitive electronic circuits be protected by arresters. They are thus fitted at the input of the power supply system together with varistors and at the connection points to telecommunication lines. They have become equally indispensable for protecting base stations in mobile telephone systems as well as extensive cable television (CATV) networks with their repeaters and distribution systems.

These protective components are also indispensable in other sectors. In AC power transmission systems, they are often used with current limiting varistors. In customer premises equipment such as DSL modems, WLAN routers, TV sets and cable modems. In air conditioning equipment, the integral black-box concept offers graduated protection by combining arresters with varistors, PTC, diodes and inductor.




Features

- Non-Radioactive
- ROHS compliant
- Low insertion loss
- Excellent response to fast rising transients
- Ultra low capacitance
- 5KA surge capability tested with 8/20us pulse as defined by IEC 61000-4-5
- Available with thermal failsafe option (add F'suffix to part number)

Applications

- Communication equipment
 - Test equipment
 - Power supplies
 - Broadband equipment
 - XDSL equipment
 - Consumer electronics
- CATV equipment
Data lines
Telecom SLIC protection
ADSL equipment, including ADSL2+
Satellite and CATV equipment

Agency Approvals

Agency	Agency File Number
	E324754

Product Characteristics

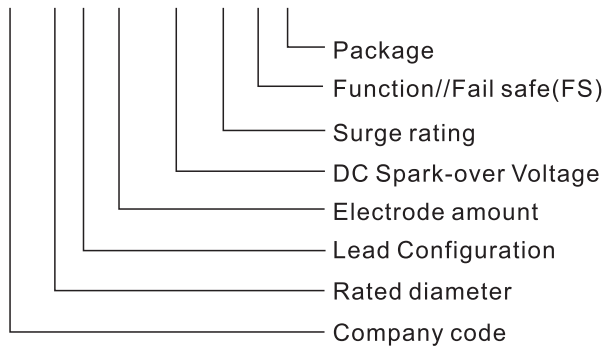
Materials	Nickel-plated with Tinplated wires	
Glow to Arc Transition Current	~1Amp	
Glow Voltage	~70 Volts	
Weight(g)	KW5S2R	0.48
	KW5S3R	0.70
	KW5A2R	0.66
	KW5M2R	0.67
	KW5M3R	0.78

KW5S2R/KW5A2R/KW5M3R/KW5S3R/KW5M2R Series Gas Discharge Tube (GDT) Products

Part Numbering System

example:

KW 5 S 2R XXX R O S



Colour Code

2R 75 15

Electrode amount:2R=2 electrode device

DC Spark-over Voltage:75=75V

Year code:15=2015

 2R 75

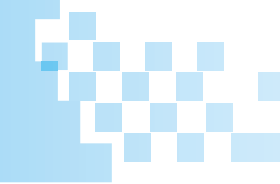
Company code:  =King Wahoo

Electrode amount:2R=2 electrode device

DC Spark-over Voltage:75=75V

Electrical Specifications

Catalog Number 料號	DC Spark-Over Voltage 標稱直流擊穿電壓 100V/S VS (V)	Impulse Spark Over 衝擊擊穿電壓 1KV/μs Vis(V) Max	Nom Impulse Discharge Current 耐衝擊電流 8/20μs (KA)	Nom Discharge Current(L) 耐工頻電流 IS,50Hz(A)	Insulation Resistance 絕緣電阻		Capacitance 電容值 C 1KHZ<6V pF Max	Marking
					Min MΩ	DC V		
KW5S2R75	75±30%	700	5	5	1000	50	1.0	2R 75 XX
KW5S3R75	75±30%	700	5	5	1000	50	1.0	3R 75 XX
KW5A2R75	75±30%	700	5	5	1000	50	1.0	 2R 75
KW5M2R75	75±30%	700	5	5	1000	50	1.0	 2R 75
KW5M3R75	75±30%	700	5	5	1000	50	1.0	3R 75 XX
KW5S2R90	90±30%	700	5	5	1000	50	1.0	2R 90 XX
KW5S3R90	90±30%	700	5	5	1000	50	1.0	3R 90 XX
KW5A2R90	90±30%	700	5	5	1000	50	1.0	 2R 90
KW5M2R90	90±30%	700	5	5	1000	50	1.0	 2R 90
KW5M3R90	90±30%	700	5	5	1000	50	1.0	3R 90 XX
KW5S2R150	150±30%	700	5	5	1000	50	1.0	2R 150 XX
KW5S3R150	150±30%	700	5	5	1000	50	1.0	3R 150 XX
KW5A2R150	150±30%	700	5	5	1000	50	1.0	 2R 150
KW5M2R150	150±30%	700	5	5	1000	50	1.0	 2R 150
KW5M3R150	150±30%	700	5	5	1000	50	1.0	3R 150 XX
KW5S2R230	230±20%	800	5	5	1000	100	1.0	2R 230 XX
KW5S3R230	230±20%	800	5	5	1000	100	1.0	3R 230 XX
KW5A2R230	230±20%	800	5	5	1000	100	1.0	 2R 230
KW5M2R230	230±20%	800	5	5	1000	100	1.0	 2R 230
KW5M3R230	230±20%	800	5	5	1000	100	1.0	3R 230 XX
KW5S2R350	350±20%	800	5	5	1000	100	1.0	2R 350 XX
KW5S3R350	350±20%	800	5	5	1000	100	1.0	3R 350 XX
KW5A2R350	350±20%	800	5	5	1000	100	1.0	 2R 350



KW5S2R/KW5A2R/KW5M3R/KW5S3R/KW5M2R Series Gas Discharge Tube (GDT) Products

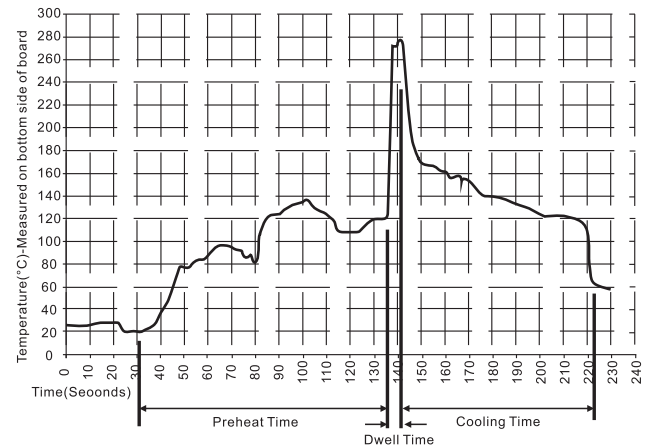


Catalog Number 料號	DC Spark-Over Voltage 標稱直流擊穿電壓 100V/S VS (V)	Impulse Spark Over 衝擊擊穿電壓 1KV/μs Vis(V) Max	Nom Impulse Discharge Current 耐衝擊電流 8/20μs (KA)	Nom Discharge Current(L) 耐工頻電流 IS,50Hz(A)	Insulation Resistance 絕緣電阻		Capacitance 電容值 C 1KHZ<6V pF Max	Marking
					Min MΩ	DC V		
KW5M2R350	350±20%	800	5	5	1000	100	1.0	2R 350
KW5M3R350	350±20%	800	5	5	1000	100	1.0	3R 350 XX
KW5S2R470	470±20%	900	5	5	1000	100	1.0	2R 470XX
KW5S3R420	420±20%	900	5	5	1000	100	1.0	3R 420 XX
KW5A2R470	470±20%	900	5	5	1000	100	1.0	2R 470
KW5M2R470	470±20%	900	5	5	1000	100	1.0	2R 470
KW5M3R420	420±20%	900	5	5	1000	100	1.0	3R 420 XX
KW5S2R600	600±20%	1200	5	5	1000	100	1.0	2R 600 XX
KW5S3R600	600±20%	1200	5	5	1000	250	1.0	3R 600 XX
KW5A2R600	600±20%	1200	5	5	1000	100	1.0	2R 600
KW5M2R600	600±20%	1200	5	5	1000	100	1.0	2R 600
KW5M3R600	600±20%	1200	5	5	1000	250	1.0	3R 600 XX
KW5S2R1000	1000±20%	1800	5	5	1000	100	1.0	2R 1000 XX
KW5S3R1000	1000±20%	1800	5	5	1000	250	1.0	3R 1000 XX
KW5A2R1000	1000±20%	1800	5	5	1000	100	1.0	2R 1000
KW5M2R1000	1000±20%	1800	5	5	1000	100	1.0	2R 1000
KW5M3R1000	1000±20%	1800	5	5	1000	250	1.0	3R 1000 XX

Soldering Parameters - Wave Soldering (Thru-Hole Devices)

Recommended Process Parameters:

Wave Parameter	Lead-Free Recommendation
Preheat: (Depends on Flux Activation Temperature)	(Typical Industry Recommendation)
Temperature Minimum:	100°C
Temperature Maximum:	150°C
Preheat Time:	60-180 seconds
Solder Pot Temperature:	280°C Maximum
Solder Dwell Time:	2-5 seconds



Soldering Parameters - Hand Soldering

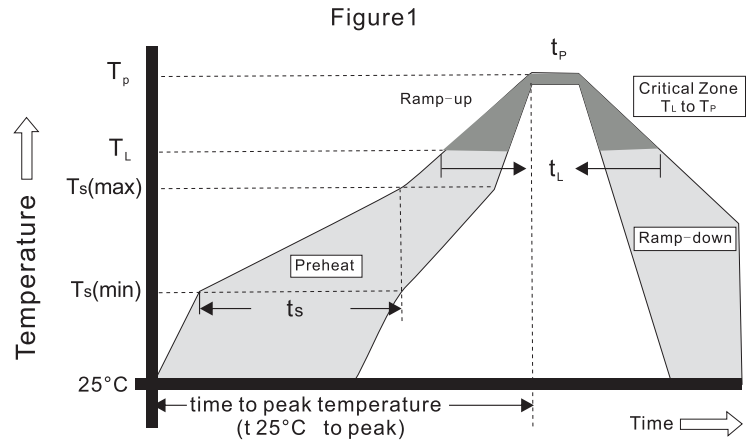
Solder Iron Temperature: 350° C +/- 5°C

Heating Time: 5 seconds max.

**KW5S2R/KW5A2R/KW5M3R/KW5S3R/KW5M2R Series
Gas Discharge Tube (GDT)Products**

Soldering Parameters - Reflow Soldering (Surface Mount Devices)

Reflow Condition		Pb – Free assembly
Heat Pre	Temperature Min	150°C
	Temperature Max	200°C
	Time (Min to Max)	60 – 180 secs
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
	- Temperature (t _L)	60 – 150 seconds
Peak Temperature (T _P)		260±0/-5 °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



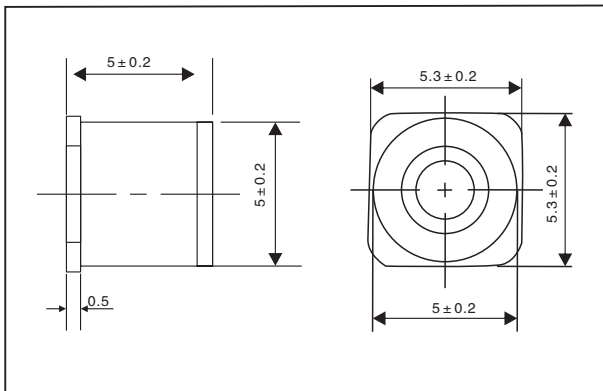
Temperature Range

Operating temp range : -55°C to +125°C

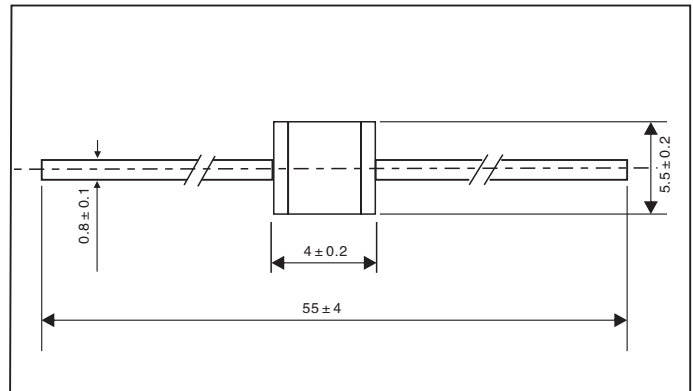
Storage temp range : -40°C to +85°C

Dimensions (Unit:mm)

Without Wire Devices(KW5S2R)



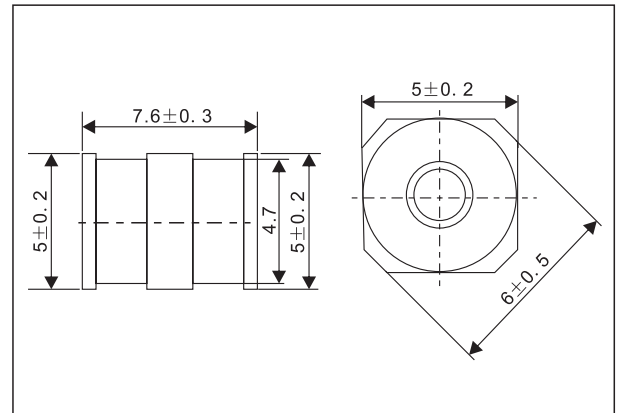
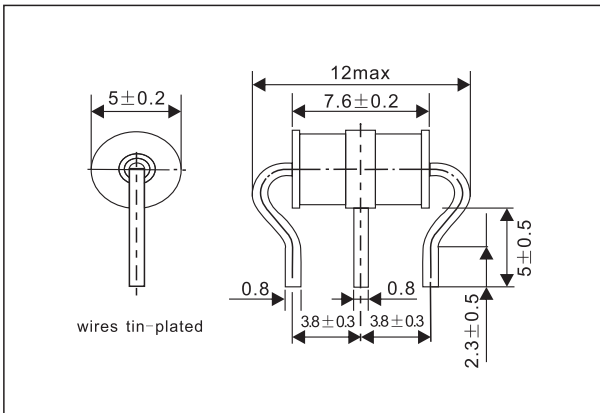
Radial Leaded Devices(KW5A2R)



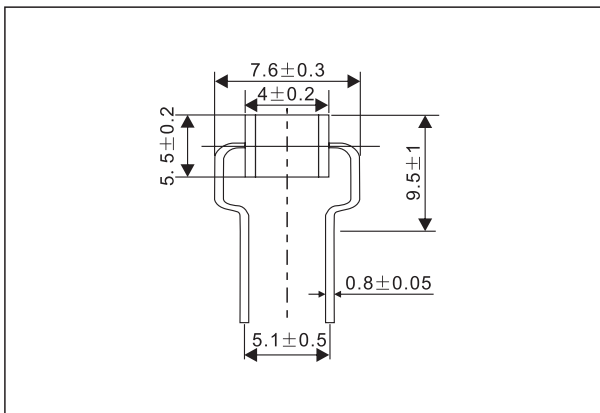
**KW5S2R/KW5A2R/KW5M3R/KW5S3R/KW5M2R Series
Gas Discharge Tube (GDT)Products**

Radial Leaded Devices(KW5M3R)

Without Wire Devices(KW5S3R)



Radial Leaded Devices(KW5M2R)



Packaging

Part Number	Description	Quantity
KW5S2R	1500PCS Per Reel,6000PCS in box,24000PCS outer box	24000
KW5S3R	1000PCS Per Reel,3000PCS in box, 12000PCS outer box	12000
KW5A2R	100PCS PVC,500PCS in box ,5000PCS outer box	5000
KW5M2R	100PCS PVC,500PCS in box ,5000PCS outer box	5000
KW5M3R	100PCS PVC,500PCS in box ,5000PCS outer box	5000