

Gas Discharge Tubes

2 Electrode Surface Mount Mini (2SM), Surface Mount (2S), Surface Mount Mini Square (2SS) and Surface Mount Chip (4532) Series

Part Numbering System | Specifications | Dimensions | Recommended Pad Size

Part Numbering System

WPGT - 2S 230 TR
① ② ③ ④

① World Products Gas Discharge Tubes

② Series Code

2SM = 2 Electrode Surface Mount Mini Series
2S = 2 Electrode Surface Mount Series
2SS = 2 Electrode Surface Mount Mini Square Series
4532 = 2 Electrode Surface Mount Chip Series

③ DC Breakdown Voltage

70 = 70V
75 = 75V
90 = 90V
120 = 120V - 3SM Series Only
145 = 145V
150 = 150V - 3SM Series Only
200 = 200V
230 = 230V
250 = 250V
300 = 300V
350 = 350V
400 = 400V
420 = 420V
470 = 470V
500 = 500V (4532 Series Only)
600 = 600V
1200 = 1200V - 2S Series Only
1800 = 1800V - 2S Series Only
2000 = 2000V - 2S Series Only
2500 = 2500V - 2S Series Only
2700 = 2700V - 2S Series Only
3000 = 3000V - 2S Series Only

④ Taping Specifications

TR = Tape & Reel

Specifications

2 Electrode Surface Mount Mini Series (2SM)

Base Part Number	DC Breakdown Voltage (V)	Maximum Impulse Breakdown Voltage (V)		Maximum Impulse Discharge Current (8/20 μ s) (KA)		Alternating Discharge Current (A)		Impulse Life (10/ 1000μ s) (100A)	DC Holdover Voltage (V)	Minimum Insulation Resistance (G?)	Maximum Capacitance (pf)
	100V/s	100V/μ s	1000V/μ s	1 time	10 times (5 times each polarity)	50Hz, 1 sec	Single 9 cycles	times	<150ms	*	1MHz
WPGT-2SM75	75 ± 20%	700	800	5	3	3	6	300	52	1	0.5
WPGT-2SM90	90 ± 20%	700	800	5	3	3	6	300	52	1	0.5
WPGT-2SM145	145 ± 20%	700	800	5	3	3	6	300	52	1	0.5
WPGT-2SM230	230 ± 20%	600	700	5	3	3	6	300	135	1	0.5
WPGT-2SM250	250 ± 20%	600	700	5	3	3	6	300	135	1	0.5
WPGT-2SM300	300 ± 20%	600	700	5	3	3	6	300	135	1	0.5
WPGT-2SM350	350 ± 20%	650	800	5	3	3	6	300	135	1	0.5
WPGT-2SM400	400 ± 20%	700	800	5	3	3	6	300	135	1	0.5
WPGT-2SM470	470 ± 20%	700	800	5	3	3	6	300	135	1	0.5
WPGT-2SM600	600 ± 20%	900	1000	5	3	3	6	300	135	1	0.5

UL497B Recognized, File #E135015

*DC Breakdown Voltage DC Measuring Voltage
75-400V 100V
470-600V 250V

2 Electrode Surface Mount Standard Series (2S)

Base Part Number	DC Breakdown Voltage (V)	Maximum Impulse Breakdown Voltage (V)		Maximum Impulse Discharge Current (8/20 μ s) (KA)		Alternating Discharge Current (A)		Impulse Life (10/ 1000μ s) (100A)	DC Holdover Voltage (V)	Minimum Insulation Resistance (G?)	Maximum Capacitance (pf)
	100V/s	100V/μ s	1000V/μ s	1 time	10 times (5 times each polarity)	50Hz, 1 sec	Single 9 cycles	times	<150ms	*	1MHz
WPGT-2S75	75 ± 20%	600	700	8	5	5	15	1000	52	1	1
WPGT-2S90	90 ± 20%	600	700	8	5	5	15	1000	52	1	1
WPGT-2S145	145 ± 20%	500	700	8	5	5	15	1000	52	1	1
WPGT-2S230	230 ± 20%	450	550	8	5	5	15	1000	135	1	1
WPGT-2S250	250 ± 20%	450	550	8	5	5	15	1000	135	1	1
WPGT-2S300	300 ± 20%	500	600	8	5	5	15	1000	135	1	1
WPGT-2S350	350 ± 20%	500	600	8	5	5	15	1000	135	1	1
WPGT-2S400	400 ± 20%	600	700	8	5	5	15	1000	135	1	1
WPGT-2S470	470 ± 20%	700	800	8	5	5	15	1000	135	1	1
WPGT-2S600	600 ± 20%	800	900	8	5	5	15	1000	135	1	1
WPGT-2S1200	1200 ± 20%	1700	1800	8	5	5	10	300	150	1	1
WPGT-2S1800	1800 ± 20%	2500	2600	5	3	3	10	300	150	1	1
WPGT-2S2000	2000 ± 20%	2700	2800	5	3	3	10	300	150	1	1
WPGT-2S2500	2500 ± 20%	3100	3200	5	3	3	10	300	150	1	1
WPGT-2S2700	2700 ± 20%	3300	3400	5	3	3	10	300	150	1	1
WPGT-2S3000	3000 ± 20%	3600	3700	5	3	3	10	300	150	1	1

UL497B Recognized, File #E135015 (WPGT-2S75 through WPGT -2S600)

UL1449 and C-UL 3rd Edition Recognized, File #E196885 (WPGT-2S1200 through WPGT -2S3000)

*DC Breakdown Voltage DC Measuring Voltage
70-90V 50V
145-400V 100V
470-600V 250V
1200-2000V 550V

2 Electrode Surface Mount Mini Square Series (2SS)

Base Part Number	DC Breakdown Voltage (V)	Maximum Impulse Breakdown Voltage (V)		Maximum Impulse Discharge Current (8/20 μ s) (KA)		Alternating Discharge Current (A)		Impulse Life (10/ 1000μ s) (100A)	DC Holdover Voltage (V)	Minimum Insulation Resistance (G?)	Maximum Capacitance (pf)
	100V/s	100V/μ s	1000V/μ s	1 time	10 times (5 times each polarity)	50Hz, 1 sec	Single 9 cycles	times	<150ms	*	1MHz
WPGT-2SS75	75 ± 20%	700	800	5	3	3	6	300	52	1	0.5
WPGT-2SS90	90 ± 20%	700	800	5	3	3	6	300	52	1	0.5
WPGT-2SS145	145 ± 20%	700	800	5	3	3	6	300	52	1	0.5
WPGT-2SS230	230 ± 20%	600	700	5	3	3	6	300	135	1	0.5
WPGT-2SS250	250 ± 20%	600	700	5	3	3	6	300	135	1	0.5
WPGT-2SS300	300 ± 20%	600	700	5	3	3	6	300	135	1	0.5
WPGT-2SS350	350 ± 20%	650	800	5	3	3	6	300	135	1	0.5
WPGT-2SS400	400 ± 20%	700	800	5	3	3	6	300	135	1	0.5
WPGT-2SS470	470 ± 20%	700	800	5	3	3	6	300	135	1	0.5
WPGT-2SS600	600 ± 20%	900	1000	5	3	3	6	300	135	1	0.5

UL 497B Recognition, File #E135015

*DC Breakdown Voltage DC Measuring Voltage
750-400V 100V
470-600V 250V

2 Electrode Surface Mount Chip Series (4532)

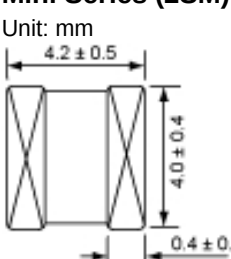
Base Part Number	DC Breakdown Voltage (V)	Maximum Impulse Discharge Current (KA)	Alternating Discharge Current (A)		Impulse withstanding voltage capacity (KV)		Impulse Life (80/ 20μ s) 100A	Minimum Insulation Resistance (1G?)	Maximum Capacitance (pf)
	100V/s	10 times (5 times each polarity)	50Hz, 1 sec.	10 times	10/700μ s R=25?	10 times (5 times each polarity)	times	*	1MHz 1v
WP-4532-75	55 - 95	2	2	4	300	1	0.5 max.		
WP-4532-90	63 - 117								
WP-4532-120	84 - 156								
WP-4532-150	105 - 195								
WP-4532-200	140 - 260								
WP-4532-230	161 - 299								
WP-4532-300	210 - 390								
WP-4532-350	245 - 455								
WP-4532-400	280 - 520								
WP-4532-420	294 - 546								
WP-4532-470	329 - 611								
WP-4532-500	350 - 650								
WP-4532-600	420 - 780								

UL 497B Recognition, File #E135015

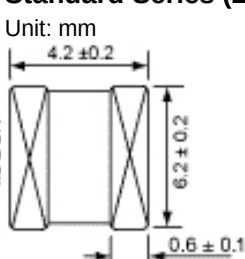
*DC Breakdown Voltage DC Measuring Voltage
70 - 120V 50V
150 - 600V 100V

Dimensions

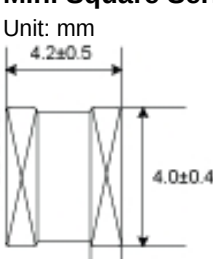
2 Electrode Surface Mount Mini Series (2SM)



2 Electrode Surface Mount Standard Series (2S)



2 Electrode Surface Mount Mini Square Series (2SS)



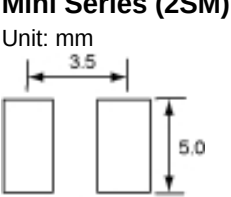
2 Electrode Surface Mount Chip Series (4532)



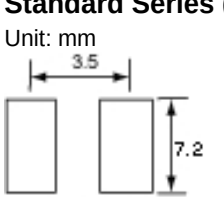
NOTE: This product has a square ceramic body.

Recommended Pad Size

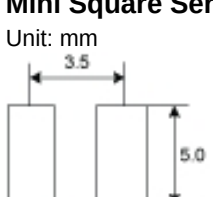
2 Electrode Surface Mount Mini Series (2SM)



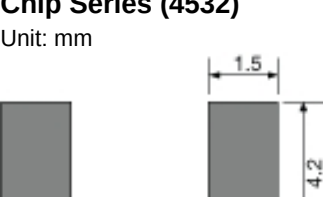
2 Electrode Surface Mount Standard Series (2S)



2 Electrode Surface Mount Mini Square Series (2SS)



2 Electrode Surface Mount Chip Series (4532)



NOTE: This product has a square ceramic body.

Gas Discharge Tubes

General Characteristics

Features

Temperature Rating

100% Inspection

RoHS Information

Solderability

Part Marking

Terms and Definitions

2 Electrode Mini (2RM)

2 Electrode Standard and High Voltage (2R)

2 Electrode High Current (2N)

2 Electrode Extremely High Current Series (20B)

2 Electrode Switching Series (2T)

3 Electrode Mini (3RM) and Standard (3R) Series

2 Electrode Surface Mount Mini (2SM), Surface Mount (2S), Surface Mount Mini Square (2SS) and Surface Mount Chip (4532) Series

3 Electrode Surface Mount Mini (3SM and 3SSM) Series

Packaging

Standard Bulk Packaging

Tape & Reel Specifications