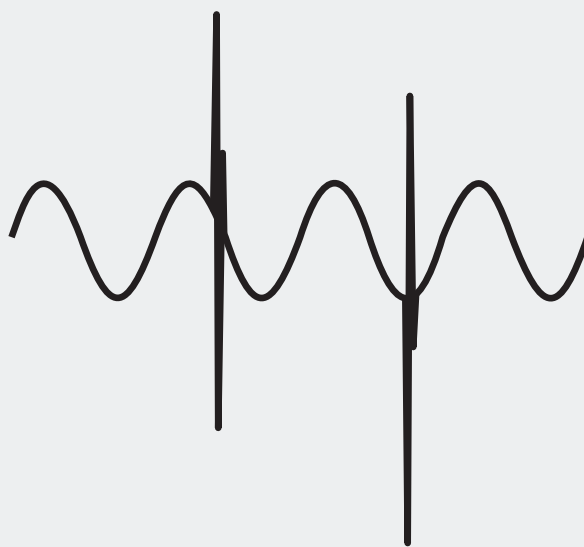


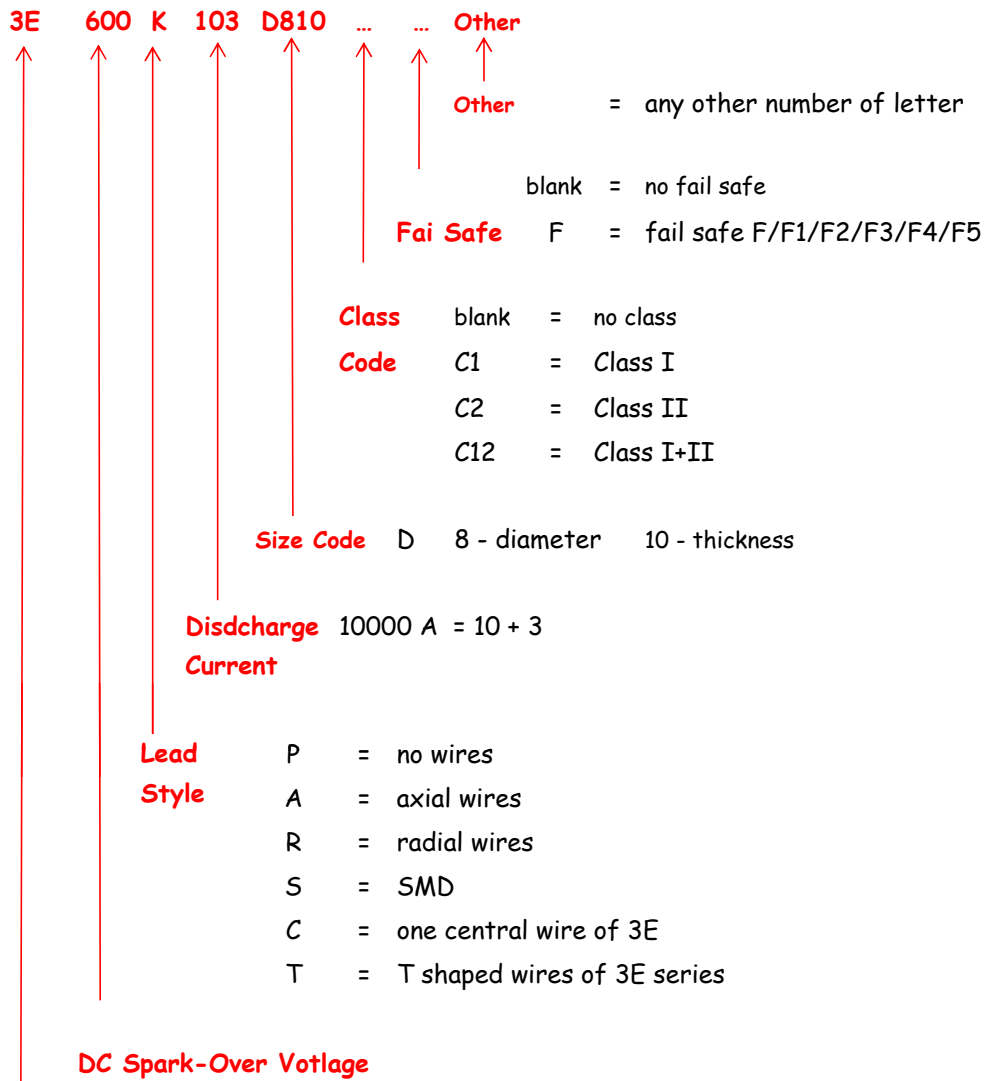
GAS DISCHARGE TUBES



Dr



HOW TO ORDER



Series 2E = 2 Electrode GDTs
Name 3E = 3 Electrode GDTs



GAS DISCHARGE TUBES

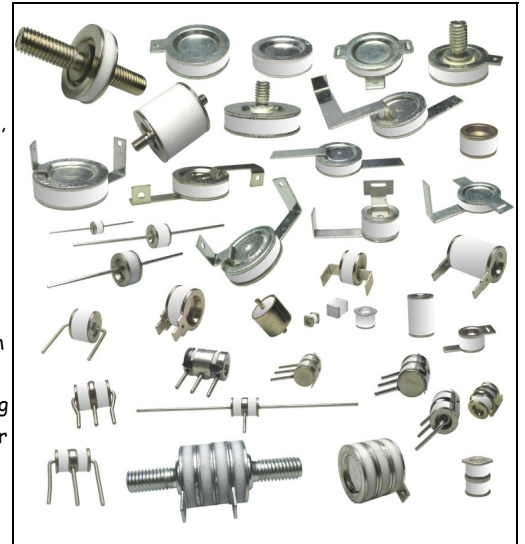
Description

ZIVIC offers wide variety of GDTs. This variety includes GDTs for general type of applications in different fields of electronics and power applications in surge protection devices; GDTs with 2, 3 or more electrodes for different mounting techniques such as SMD, through-hole GDTs with different lead styles, GDTs with customised electrode shapes, 3E GDTs with/without fail safe.



Surge withstand capabilities range from 1 kA to 20 kA of nominal discharge current in case of general purpose GDTs and from 10 kA to 100 kA in case of power GDTs. Although not specifically offered in this catalogue, we can also offer Class I, Class II and Class I+II surge withstand capability of power GDTs.

Available DC spark-over voltage range in case of general purpose GDTs covers voltages from 75-600 V, while in case of power GDTs it covers voltages from 500-3300 V.

Especially useful GDTs parameters are their very low capacitance (typically < 1 pF) providing very fast response time (typically < 1 ns) and very low leakage current in comparison to other components such as MOVs. Low impulse spark-over voltage and fast response are special characteristics of our GDTs provided by special double sealing technique.

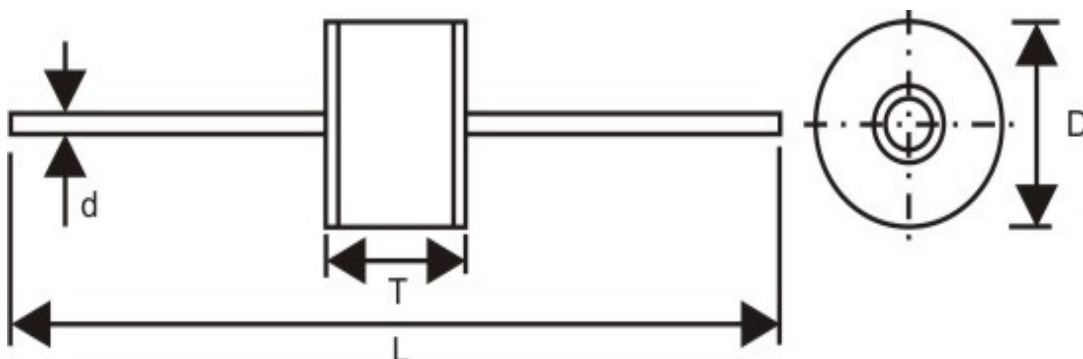


Features and Maximum Ratings

Parameter	Symbol	Units	General Purpose GDTs					Power GDTs
			2E		3E			2E
Type			S	A, R	S	A, R, T, C, F	P, PF	P, R
Lead/Terminal style			4	4	2	4	4	8
Number of sizes		mm	4	4	2	4	4	8
DC Spark-over Voltage @ 100 V/s		V	75-600	75-600	75-600	75-600	75-600	500-3300
Impulse spark-over voltage 5 kV/μs (1, 2/50 μs, 6 kV)		V	600-1400	600-1400	600-1400	600-1400	600-1400	1500-5000
Transient								
Nominal Discharge Current	8/20 μs	I_n kA	1-20	5-20	5-10	5-20	5-20	10-100
Maximum Discharge Current	8/20 μs	I_{max} kA						20-150
Operating Ambient Temperature		LCT/UCT °C			-40 to +90			
Storage Temperature Range					-55 to +125			
Insulation Resistance @ 250 V		R _i GΩ	≥ 1	≥ 10	≥ 10	≥ 10	≥ 10	≥ 1
Capacitance @ 1 MHz, 1 V		C pF	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 10
Response Time		tr ns	≤ 1	≤ 20	≤ 1	≤ 20	≤ 1	≤ 1
Marking			ZIVIC logo ...2E/3E xxx Z yyy / c-UL-usCSA					
Available Packaging Methods			taped	tray	taped	tray	tray	tray
Comply with Standards			ITU-T K.12, GB9043, REA PE-80, YD/T694, UL1449, UL497B					
Solderable According to			JEDEC J-STD-020C; IEC 60068-2-54; 58; 69, IEC 60068-2-20					
RoHS Compliant according to			2002/95/EC, 2003/11/EC, REACH, RoHS II 2011/65/EU, RoHS 2001/65/RU					
Approvals								
	File No. acc. to UL1449 3rd ed. , CSA C22.2							E331900
	File No. acc. to UL497B, 4th ed.				E492914			



Device Ratings and Characteristics



Type ZZ	DC Spark-over voltage @ 100 V/s (V)	Vs Tolerance (%)	Impulse Spark-over Voltage @ 1 kV/μs (V)	In Impulse Discharge Current @ 8/20 μs, 5 hits of each polarity (kA)	AC Diischarge current @ 50 Hz/1 s each electrode 5 times (A)	Insulation Resistance @100 Vdc (GΩ)	Capacitance @ 1 MHz (pF)	Size				c-UL-us	CSA
								D ±0,2 (mm)	T ±0,2 (mm)	L ±4 (mm)	d ±0,05 (mm)		
2E 75 A 502 D55	75	±20%	600	5	5	10	≤ 1	5	5	60	0,8	X	X
2E 90 A 502 D55	90	±20%	600	5	5	10	≤ 1	5	5	60	0,8	X	X
2E 150 A 502 D55	150	±20%	600	5	5	10	≤ 1	5	5	60	0,8	X	X
2E 200 A 502 D55	200	±20%	700	5	5	10	≤ 1	5	5	60	0,8	X	X
2E 230 A 502 D55	230	±20%	700	5	5	10	≤ 1	5	5	60	0,8	X	X
2E 300 A 502 D55	300	±20%	900	5	5	10	≤ 1	5	5	60	0,8	X	X
2E 350 A 502 D55	350	±20%	1000	5	5	10	≤ 1	5	5	60	0,8	X	X
2E 400 A 502 D55	400	±20%	1000	5	5	10	≤ 1	5	5	60	0,8	X	X
2E 470 A 502 D55	470	±20%	1200	5	5	10	≤ 1	5	5	60	0,8	X	X
2E 600 A 502 D55	600	±20%	1400	5	5	10	≤ 1	5	5	60	0,8	X	X
2E 75 A 502 D66	75	±20%	600	5	5	10	≤ 1	5,5	6	60	0,8	X	X
2E 90 A 502 D66	90	±20%	600	5	5	10	≤ 1	5,5	6	60	0,8	X	X
2E 150 A 502 D66	150	±20%	600	5	5	10	≤ 1	5,5	6	60	0,8	X	X
2E 200 A 502 D66	200	±20%	700	5	5	10	≤ 1	5,5	6	60	0,8	X	X
2E 230 A 502 D66	230	±20%	700	5	5	10	≤ 1	5,5	6	60	0,8	X	X
2E 300 A 502 D66	300	±20%	900	5	5	10	≤ 1	5,5	6	60	0,8	X	X
2E 350 A 502 D66	350	±20%	1000	5	5	10	≤ 1	5,5	6	60	0,8	X	X
2E 400 A 502 D66	400	±20%	1000	5	5	10	≤ 1	5,5	6	60	0,8	X	X
2E 470 A 502 D66	470	±20%	1200	5	5	10	≤ 1	5,5	6	60	0,8	X	X
2E 600 A 502 D66	600	±20%	1400	5	5	10	≤ 1	5,5	6	60	0,8	X	X
2E 75 A 502 D64	75	±20%	600	5	5	10	≤ 1	6	4	62	0,8	X	X
2E 90 A 502 D64	90	±20%	600	5	5	10	≤ 1	6	4	62	0,8	X	X
2E 150 A 502 D64	150	±20%	600	5	5	10	≤ 1	6	4	62	0,8	X	X
2E 200 A 502 D64	200	±20%	700	5	5	10	≤ 1	6	4	62	0,8	X	X
2E 230 A 502 D64	230	±20%	700	5	5	10	≤ 1	6	4	62	0,8	X	X
2E 300 A 502 D64	300	±20%	900	5	5	10	≤ 1	6	4	62	0,8	X	X
2E 350 A 502 D64	350	±20%	1000	5	5	10	≤ 1	6	4	62	0,8	X	X
2E 400 A 502 D64	400	±20%	1000	5	5	10	≤ 1	6	4	62	0,8	X	X
2E 470 A 502 D64	470	±20%	1200	5	5	10	≤ 1	6	4	62	0,8	X	X
2E 600 A 502 D64	600	±20%	1400	5	5	10	≤ 1	6	4	62	0,8	X	X

2E 75 A 502 D86	75	±20%	600	5	5	10	≤ 1	8	6	62	0,8	X	X
2E 90 A 502 D86	90	±20%	600	5	5	10	≤ 1	8	6	62	0,8	X	X
2E 150 A 502 D86	150	±20%	600	5	5	10	≤ 1	8	6	62	0,8	X	X
2E 200 A 502 D86	200	±20%	700	5	5	10	≤ 1	8	6	62	0,8	X	X
2E 230 A 502 D86	230	±20%	700	5	5	10	≤ 1	8	6	62	0,8	X	X
2E 300 A 502 D86	300	±20%	900	5	5	10	≤ 1	8	6	62	0,8	X	X
2E 350 A 502 D86	350	±20%	1000	5	5	10	≤ 1	8	6	62	0,8	X	X
2E 400 A 502 D86	400	±20%	1000	5	5	10	≤ 1	8	6	62	0,8	X	X
2E 470 A 502 D86	470	±20%	1200	5	5	10	≤ 1	8	6	62	0,8	X	X
2E 600 A 502 D86	600	±20%	1400	5	5	10	≤ 1	8	6	62	0,8	X	X
2E 75 A 103 D86	75	±20%	600	10	10	10	≤ 1	8	6	62	0,8	X	X
2E 90 A 103 D86	90	±20%	600	10	10	10	≤ 1	8	6	62	0,8	X	X
2E 150 A 103 D86	150	±20%	600	10	10	10	≤ 1	8	6	62	0,8	X	X
2E 200 A 103 D86	200	±20%	700	10	10	10	≤ 1	8	6	62	0,8	X	X
2E 230 A 103 D86	230	±20%	700	10	10	10	≤ 1	8	6	62	0,8	X	X
2E 300 A 103 D86	300	±20%	900	10	10	10	≤ 1	8	6	62	0,8	X	X
2E 350 A 103 D86	350	±20%	1000	10	10	10	≤ 1	8	6	62	0,8	X	X
2E 400 A 103 D86	400	±20%	1000	10	10	10	≤ 1	8	6	62	0,8	X	X
2E 470 A 103 D86	470	±20%	1200	10	10	10	≤ 1	8	6	62	0,8	X	X
2E 600 A 103 D86	600	±20%	1400	10	10	10	≤ 1	8	6	62	0,8	X	X
2E 75 A 203 D86	75	±20%	600	20	20	10	≤ 1	8	6	62	1	X	X
2E 90 A 203 D86	90	±20%	600	20	20	10	≤ 1	8	6	62	1	X	X
2E 150 A 203 D86	150	±20%	600	20	20	10	≤ 1	8	6	62	1	X	X
2E 200 A 203 D86	200	±20%	700	20	20	10	≤ 1	8	6	62	1	X	X
2E 230 A 203 D86	230	±20%	700	20	20	10	≤ 1	8	6	62	1	X	X
2E 300 A 203 D86	300	±20%	900	20	20	10	≤ 1	8	6	62	1	X	X
2E 350 A 203 D86	350	±20%	1000	20	20	10	≤ 1	8	6	62	1	X	X
2E 400 A 203 D86	400	±20%	1000	20	20	10	≤ 1	8	6	62	1	X	X
2E 470 A 203 D86	470	±20%	1200	20	20	10	≤ 1	8	6	62	1	X	X
2E 600 A 203 D86	600	±20%	1200	20	20	10	≤ 1	8	6	62	1	X	X