

TUR TYPE ZINC OXIDE VARISTOR

■ Feature

1. Compliant with RoHS
2. Can provide a series of products with halogen-free requirements
3. Body size: Φ 5mm ~ Φ 20mm
4. Wide working voltage range: 11Vac~1000Vac
5. Working temperature range: -40 °C~+105 °C
Storage temperature range: -40 °C~+125 °C
6. Safety certification: UL 1449 /cUL/TUV/CQC



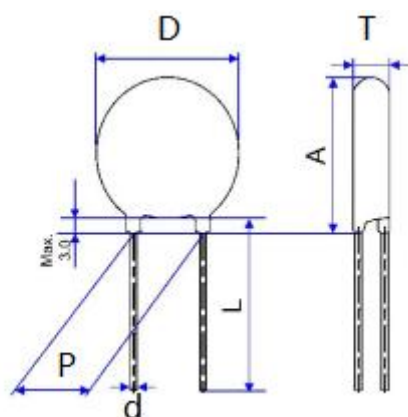
■ Application

1. Power supply unit
2. Household appliances
3. Industrial equipment
4. Communication equipment
5. Intelligent control type electricity meter
6. Power line intelligent communication equipment
7. Lighting
8. Photovoltaic system

■ Part number code

T	U	R	1	0	D	4	7	1	K
TYPE			DISC			VOLTAGE			TOLERANCE
			05	Φ 05mm		471:47X10 ¹ =470			K: \pm 10%
			07	Φ 07mm					
			10	Φ 10mm					
			14	Φ 14mm					
			20	Φ 20mm					

■ Structure and dimensions



Series	Dmax	Tmax	Lmin	P	d±0.05	Fmax
05D	7.5	5.5	25	5	0.6	3.0
07D	9.5	5.5		5		
10D	12.5	6		7.5	0.8	
14D	15.5	6.5		7.5		
20D	23	7		10	1.0	

■ Electrical characteristics

Part no	Varistor	Max allowable		Energy	Alloweable	Maximum		Capacitance
	Voltage	voltage			voltage	clamping voltage		(reference)
	(V)	AC(V)	DC(V)	(J)	(A)	IP(A)	(V)	(PF)
05D180K	18	11	14	0.3	100	1	40	1600
05D220K	22	14	18	0.4	100	1	48	1300
05D270K	27	17	22	0.5	100	1	60	1050
05D330K	33	20	26	0.6	100	1	73	900
05D390K	39	25	31	0.8	100	1	86	500
05D470K	47	30	38	1	100	1	104	450
05D560K	56	35	45	1	100	1	123	400
05D680K	68	40	56	1.2	100	1	150	350
05D820K	82	50	65	1.7	400	5	145	250
05D101K	100	60	85	2	400	5	175	200
05D121K	120	75	100	2.5	400	5	210	170
05D151K	150	95	125	3	400	5	260	140
05D181K	180	115	150	3.5	400	5	315	110
05D201K	200	130	170	4	400	5	355	80
05D221K	220	140	180	4.5	400	5	380	70

05D241K	240	150	200	5	400	5	415	70
05D271K	270	175	225	6	400	5	475	65
05D301K	300	195	250	6	400	5	525	65
05D331K	330	215	275	6.5	400	5	585	60
05D361K	360	230	300	7.5	400	5	620	55
05D391K	390	250	320	8	400	5	675	50
05D431K	430	275	350	9	400	5	745	45
05D471K	470	300	385	10	400	5	810	40
05D511K	510	320	410	10.5	400	5	880	40
05D561K	560	350	455	10.5	400	5	965	35
05D621K	620	385	505	11	400	5	1070	35
05D681K	680	420	560	12	400	5	1170	30
07D180K	18	11	14	0.9	250	2.5	36	3500
07D220K	22	14	18	1.1	250	2.5	43	2800
07D270K	27	17	22	1.4	250	2.5	53	2000
07D330K	33	20	26	1.7	250	2.5	65	1500
07D390K	39	25	31	2.1	250	2.5	77	1350
07D470K	47	30	38	2.5	250	2.5	93	1150
07D560K	56	35	45	3.1	250	2.5	110	1050
07D680K	68	40	56	3.6	250	2.5	135	950
07D820K	82	50	65	5.5	1200	10	135	900
07D101K	100	60	85	6.5	1200	10	165	800
07D121K	120	75	100	7.8	1200	10	200	600
07D151K	150	95	125	9.7	1200	10	250	500
07D181K	180	115	150	11.7	1200	10	300	400
07D201K	200	130	170	13	1200	10	340	300
07D221K	220	140	180	14	1200	10	360	300
07D241K	240	150	200	15	1200	10	395	270
07D271K	270	175	225	18	1200	10	455	250
07D301K	300	195	250	21	1200	10	505	240
07D331K	330	215	275	23	1200	10	555	220
07D361K	360	230	300	25	1200	10	595	190
07D391K	390	250	320	25	1200	10	650	180
07D431K	430	275	350	28	1200	10	710	170
07D471K	470	300	385	30	1200	10	775	150
07D511K	510	320	410	33	1200	10	845	130
07D561K	560	350	455	33	1200	10	925	110
07D621K	620	385	505	35	1200	10	1025	100

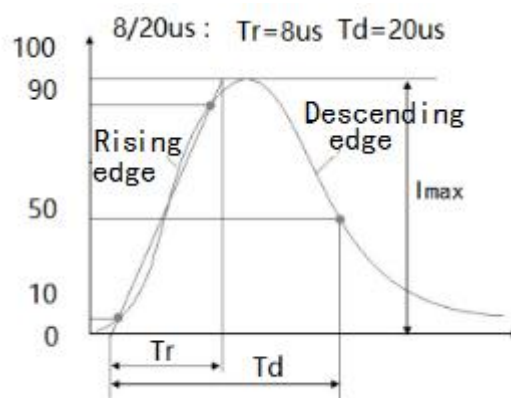
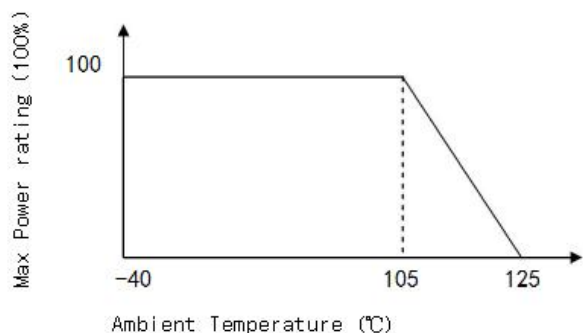
07D681K	420	560	680	35	1200	10	1120	90
10D180K	18	11	14	2.1	500	5	36	9000
10D220K	22	14	18	2.5	500	5	43	7500
10D270K	27	17	22	3	500	5	53	6500
10D330K	33	20	26	4	500	5	65	5500
10D390K	39	25	31	4.6	500	5	77	4500
10D470K	47	30	38	5.5	500	5	93	4000
10D560K	56	35	45	7	500	5	110	3500
10D680K	68	40	56	8.2	500	5	135	2500
10D820K	82	50	65	12	2500	25	135	2000
10D101K	100	60	85	15	2500	25	165	1900
10D121K	120	75	100	18	2500	25	200	1650
10D151K	150	95	125	22	2500	25	250	1500
10D181K	180	115	150	27	2500	25	300	1000
10D201K	200	130	170	30	2500	25	340	650
10D221K	220	140	180	32	2500	25	360	610
10D241K	240	150	200	35	2500	25	395	600
10D271K	270	175	225	40	2500	25	455	580
10D301K	300	195	250	40	2500	25	505	560
10D331K	330	215	275	43	2500	25	555	530
10D361K	360	230	300	47	2500	25	595	500
10D391K	390	250	320	60	2500	25	650	480
10D431K	430	275	350	65	2500	25	710	450
10D471K	470	300	385	70	2500	25	775	350
10D511K	510	320	410	70	2500	25	845	300
10D561K	560	350	455	70	2500	25	925	250
10D621K	620	385	505	70	2500	25	1025	200
10D681K	680	420	560	70	2500	25	1120	180
10D751K	750	460	615	75	2500	25	1240	170
10D821K	820	510	670	85	2500	25	1355	160
10D911K	910	550	745	93	2500	25	1500	150
10D102K	1000	625	825	102	2500	25	1650	140
10D112K	1100	680	895	115	2500	25	1815	140
14D180K	18	11	14	4	1000	10	36	21000
14D220K	22	14	18	5	1000	10	43	16000
14D270K	27	17	22	6	1000	10	53	11500
14D330K	33	20	26	7.5	1000	10	65	9000
14D390K	39	25	31	8.6	1000	10	77	7500

14D470K	47	30	38	10	1000	10	93	6600
14D560K	56	35	45	11	1000	10	110	5500
14D680K	68	40	56	14	1000	10	135	4900
14D820K	82	50	65	22	4500	50	135	4600
14D101K	100	60	85	28	4500	50	165	3600
14D121K	120	75	100	32	4500	50	200	2800
14D151K	150	95	125	40	4500	50	250	2400
14D181K	180	115	150	52	4500	50	300	1800
14D201K	200	130	170	57	4500	50	340	1300
14D221K	220	140	180	60	4500	50	360	1250
14D241K	240	150	200	63	4500	50	395	1150
14D271K	270	175	225	70	4500	50	455	1100
14D301K	300	195	250	78	4500	50	505	1000
14D331K	330	215	275	85	4500	50	555	980
14D361K	360	230	300	93	4500	50	595	930
14D391K	390	250	320	100	4500	50	650	880
14D431K	430	275	350	115	4500	50	710	750
14D471K	470	300	385	125	4500	50	775	620
14D511K	510	320	410	125	4500	50	845	540
14D561K	560	350	455	125	4500	50	925	470
14D621K	620	385	505	125	4500	50	1025	400
14D681K	680	420	560	130	4500	50	1120	380
14D751K	750	460	615	143	4500	50	1240	360
14D821K	820	510	670	157	4500	50	1355	360
14D911K	910	550	745	175	4500	50	1500	340
14D102K	1000	625	825	190	4500	50	1650	320
14D112K	1100	680	895	213	4500	50	1815	280
14D182K	1800	1000	1465	365	4500	50	2970	100
20D180K	18	11	14	11	2000	20	36	43000
20D220K	22	14	18	14	2000	20	43	33000
20D270K	27	17	22	18	2000	20	53	25000
20D330K	33	20	26	23	2000	20	65	19500
20D390K	39	25	31	26	2000	20	77	17500
20D470K	47	30	38	33	2000	20	93	15500
20D560K	56	35	45	41	2000	20	110	13000
20D680K	68	40	56	46	2000	20	135	10000
20D820K	82	50	65	48	6500	100	135	6000
20D101K	100	60	85	51	6500	100	165	5000

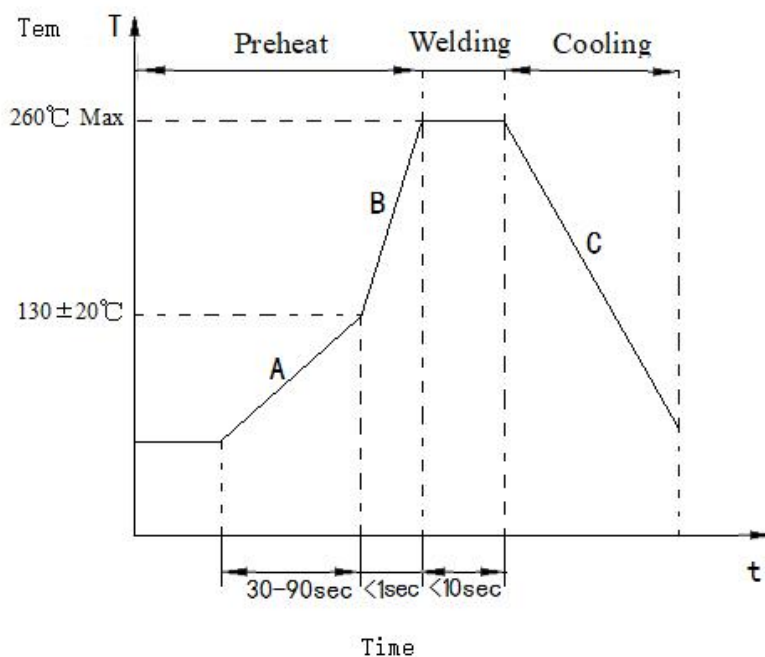
20D121K	120	75	100	55	6500	100	200	4500
20D151K	150	95	125	70	6500	100	250	3200
20D181K	180	115	150	84	6500	100	300	2500
20D201K	200	130	170	95	6500	100	340	2000
20D221K	220	140	180	100	6500	100	360	2000
20D241K	240	150	200	108	6500	100	395	1800
20D271K	270	175	225	127	6500	100	455	1600
20D301K	300	195	250	136	6500	100	505	1500
20D331K	330	215	275	150	6500	100	555	1400
20D361K	360	230	300	163	6500	100	595	1200
20D391K	390	250	320	180	6500	100	650	1100
20D431K	430	275	350	190	6500	100	710	1050
20D471K	470	300	385	220	6500	100	775	950
20D511K	510	320	410	220	6500	100	845	860
20D561K	560	350	455	220	6500	100	925	780
20D621K	620	385	505	220	6500	100	1025	700
20D681K	680	420	560	230	6500	100	1120	650
20D751K	750	460	615	255	6500	100	1240	600
20D821K	820	510	670	282	6500	100	1355	530
20D911K	910	550	745	310	6500	100	1500	500
20D102K	1000	625	825	342	6500	100	1650	450
20D112K	1100	680	895	383	6500	100	1815	400
20D182K	1800	1000	1465	575	6500	100	2970	200

■ Power Derating Curve

■ Standard waveform of impulse current



■ Soldering recommendation
Wave Soldering Profile



- A Temperature zone: temperature rise 1~3°C/sec
- B Temperature zone: temperature rise 200°C/sec
- C Temperature zone: temperature rise Max 5°C/sec

■ Storage condition

- Storage Temperature : -10~+40°C
- Relative Humidity : ≤75%RH
- Period of Storage : 12 Month