FEATURES

- Custom designed executions
- Application specific leads, housings, and connectors

PRODUCT DESCRIPTION	TYPE	TOLERANCE AT R25°C	RESISTANCE RANGE	OPERATING TEMPERATURE RANGE	APPLICATIONS
NTC Thermistors Screw terminal	**2322 640 73…**	5%	100 to 470k	-25 to +100˚C	Heatsinks, vessel walls
NTC Thermistors Insulated leads 	**2322 645 20…**	down to 1%	3k to 10k	-40 to +125˚C	Automotive climate control
NTC Thermistors Non-insulated leads	**2322 645 10…**	down to 1%	3k to 10k	-40 to +125˚C	General Industrial
NTC Thermistors PVC Long Leads, Epoxy 	**2322 641 2….**	down to 3 %	2,2k to 470k	-40 to +80˚C	Airconditioning
NTC Thermistors PVC Long Leads, Sleeved 	**2322 641 3….**	down to 3 %	2,2k to 470k	-40 to +80˚C	Fan-heaters
NTC Thermistors PVC Long Leads, Brass-pipe type 	**2322 641 4….**	down to 3 %	2,2k to 470k	-40 to +80˚C	Refrigerators
NTC Thermistors Moulded 	**2322 641 6….**	down to 3 %	2,2k to 22k	-40 to +125˚C	Temperature measurement on surface
NTC Thermistors Steelcap 	**2322 640 90042**	down to 1,5%	2,2k to 470k	-25 to +110˚C	Central heating system, washing machine sensors
NTC Thermistors ABS pipe type 	**Customized**	down to 1,5%	2,2k to 470k	-40 to +60˚C	Refrigerators, freezers
NTC Thermistors Metal Housings 	**Customized**	down to 1,5%	2,2k to 470k	-40 to +125˚C	Boilers, central heating systems
NTC Thermistors Ceramic Housings	**Customized**	down to 1,5%	2,2k to 100k	-25 to +100˚C	Boilers, central heating systems
NTC Thermistors Lug 	**Customized**	down to 2 %	2,2k to 470k	-40 to +125˚C	Temperature measurement on surface

FEATURES

- NiSn terminations
- Good stability over long life
- Suitable for wave and reflow soldering

PRODUCT DESCRIPTION	TYPE	RESISTANCE AT 25˚C (K)	B 25/85		TYPE 2322 615 5....		
			K	%	± 2% ON R25	± 3% ON R25	± 5% ON R25
NTC Thermistors SMD Size 0805 	**2322 615 5....**	2.2	3600	1	4222	6222	3222
		4.7	3500	1	4472	6472	3472
		10	3570	3	4103	6103	3103
		15	3700	1	4153	6153	3153
		22	3800	1	4223	6223	3223
		33	3920	1	4333	6333	3333
		47	3960	1	4473	6473	3473
		68	4100	1	4683	6683	3683
		100	4100	1	4104	6104	3104
		330	3930	1	4334	6334	3334
		470	4025	1	4474	6474	3474
NTC Thermistors SMD Size 0603 	**2322 615 3....**	2.2	3520	1	4222	6222	3222
		2.7	3600	1	4272	6272	3272
		4.7	3830	1	4472	6472	3472
		10	3610	1	4103	6103	3103
		15	3600	1	4153	6153	3153
		22	3730	1	4223	6223	3223
		33	3860	1	4333	6333	3333
		47	3960	1	4473	6473	3473
		68	3985	1	4683	6683	3683
		100	4100	1	4104	6104	3104
NTC Thermistors SMD Size 0402 	**2322 615 4....**	10	3490	1	4103	6103	3103
		47	4075	1	4473	6473	3473
		100	3950	1	4104	6104	3104

FEATURES

- Wide temperature range (from - 40°C to + 200°C)
- Good stability over long life
- Glass encapsulation (SOD 27 and SOD 80)
- Ideal for use in harsh environments

PRODUCT DESCRIPTION	TYPE	RESISTANCE AT 25˚C (%)	TOLERANCE AT R25˚C (%)	B 25/85		TYPE 2322 633		
				K	%	LEADED IN BULK	LEADED ON TAPE	SMD (MELF)
NTC Thermistors Glass encapsulated 	**2322 633 .....**	10000	5	3977	1.3	83103	33103	53103
		20000	5	3977	1.3	83203	33203	53203
		30000	5	3977	1.3	83303	33303	53303
		100000	5	3977	1.3	83104	33104	53104
		220000	5	3797	3.0	83224	33224	53224

FEATURES

- High accuracy over wide temperature range
- Good stability over long life
- Excellent price/performance ratio
- Fast response time
- Possible tape and reel

PRODUCT DESCRIPTION	TYPE	RESISTANCE AT 25˚C ()	B 25/85 K	B 25/85 %	UL APPROVAL	TYPE 2322 640 6.... ± 2% ON R25	± 3% ON R25	± 5% ON R25
NTC Thermistors Cu 0,6 Leads, Color coded, in bulk 	2322 640 6....	3.3	2880	3	N	4338	6338	3338
		4.7	2880	3	N	4478	6478	3478
		6.8	2880	3	N	4688	6688	3688
		10	2990	3	N	4109	6109	3109
		15	3041	3	N	4159	6159	3159
		22	3136	3	N	4229	6229	3229
		33	3390	3	Y	4339	6339	3339
		47	3390	3	Y	4479	6479	3479
		68	3390	3	Y	4689	6689	3689
		100	3560	0.75	N	4101	6101	3101
		150	3560	0.75	N	4151	6151	3151
		220	3560	0.75	N	4221	6221	3221
		330	3560	0.75	N	4331	6331	3331
		470	3560	0.75	N	4471	6471	3471
		680	3560	0.75	N	4681	6681	3681
		1K	3528	0.5	N	4102	6102	3102
		1K5	3528	0.5	N	4152	6152	3152
		2K	3528	0.5	N	4202	6202	3202
		2K2	3977	0.75	Y	4222	6222	3222
		2K7	3977	0.75	Y	4272	6272	3272
		3K3	3977	0.75	Y	4332	6332	3332
		4K7	3977	0.75	Y	4472	6472	3472
		5K0	3977	0.75	Y	4502	6502	3502
		6K8	3977	0.75	Y	4682	6682	3682
		10K	3977	0.75	Y	4103	6103	3103
		12K	3740	2	Y	4123	6123	3123
		15K	3740	2	Y	4153	6153	3153
		22K	3740	2	Y	4223	6223	3223
		33K	4090	1.5	N	4333	6333	3333
		47K	4090	1.5	N	4473	6473	3473
		50K	4190	1.5	N	4503	6503	3503
		68K	4190	1.5	N	4683	6683	3683
		100K	4190	1.5	N	4104	6104	3104
		150K	4370	2.5	Y	4154	6154	3154
		220K	4370	2.5	Y	4224	6224	3224
		330K	4570	1.5	N	4334	6334	3334
		470K	4570	1.5	N	4474	6474	3474

PRODUCT DESCRIPTION	TYPE	RESISTANCE AT 25˚C ()	B 25/85 K	B 25/85 %	UL APPROVAL	TYPE 2322 640 6.... ± 1% ON R25	± 2% ON R25	± 3% ON R25	± 5% ON R25
NTC Thermistors Ni 0,4 Leads, Color coded, in bulk 	2322 640 5....	2K	3528	0.5	N	5202	4202	6202	3202
		2K7	3977	0.75	Y	5272	4272	6272	3272
		4K7	3977	0.75	Y	5472	4472	6472	3472
		5K0	3977	0.75	Y	5502	4502	6502	3502
		10K	3977	0.75	Y	5103	4103	6103	3103
		12K	3740	2	Y	5123	4123	6123	3123
		22K	3740	2	Y	5223	4223	6223	3223
		47K	4090	1.5	N	5473	4473	6473	3473
		68K	4190	1.5	N	5683	4683	6683	3683
		100K	4190	1.5	N	5104	4104	6104	3104
		470K	4570	1.5	N	5474	4474	6474	π

FEATURES

- 11 Standard NTC (Negative Temperature Coefficient) Curves
- Chip and Leaded Styles
- Interchangeable Tolerance 1˚C - 0.2˚C; Point Matched Tol. 10%-1%

PRODUCT DESCRIPTION	TYPE	MINIMUM TOLERANCE	MAXIMUM TOLERANCE	RESISTANCE RANGE Ω	CURVE NUMBERS	OPTIONS
NTC Chip Thermistors Chip Terminations	**W**	5.00	10.0	50 -1M	1,2,7,8,12,17	Silver Terminations
NTC Chip Thermistors Wraparound Terminations	**G**	5.00	10.0	350R -1M		Palladium Silver Terminations
	J	5.00	10.0	350R -1M	1,2,7,8,12,17	Platinum Palladium Silver Terminations
NTC Chip Thermistors Wraparound or Chip Terminations	**NTHS0402**	5.00	10.0	4.7K - 350K	1,2,4,5,6,17	Nickel Barrier Terminations
	NTHS0603	5.00	10.0	500R - 400K	1,2,3,4,17	
	NTHS0805	5.00	10.0	300R - 300K	1,2,3,4,17	
	NTHS1206	5.00	10.0	200R - 350K	1,2,3,4,17	
NTC Inrush Current Limiter Thermistors	**SSN**	1Ω - 20Ω				
NTC Disc Thermistors	**SSN**	2.5Ω - 20K				

PRODUCT DESCRIPTION	TYPE	RESISTANCE RANGE Ω	AVAILABLE CURVES	LEAD LENGTH (mm)	LEAD DIAMETER (mm)	LEAD MATERIAL
NTC Thermistors Conformally Coated Leaded Types C, M, B and F are Uninsulated Type T is Insulated	**C**	See Below Curve Range	All Curves ListedBelow	3.8	0.32	Tinned Copper
	M			3.8	0.25	Tinned Copper
	B			3.8	0.40	Tinned Copper
	F			3.8	0.18	Tinned Copper
	T			3.8	0.25	Nickel / Teflon

CURVE	RESISTANCE RANGE AT 25°C	NTC AT 25°C %/°C	BETA VALUE 25/75°C	BETA VALUE 25/85°C
NTC (% °C) VS TEMPERATURE CURVES				
1	300R - 30K	-4.4	3964	3970
2	50R - 3K	-3.8	3477	3483
3	20R - 200R	-3.2	3181	3191
4	20K - 100K	-4.7	4247	4257
7	15K - 200K	-4.8	4437	4456
8	20K - 100K	-4.3	3925	3939
9	10K - 30K	-4.0	3679	3690
12	60K - 1.5M	-5.2	4842	4870
13	3M - 40M	-6.2	5718	3745
14	10R - 250R	-3.1	3022	3008
17	2K - 50K	-4.5	4064	4069

FEATURES

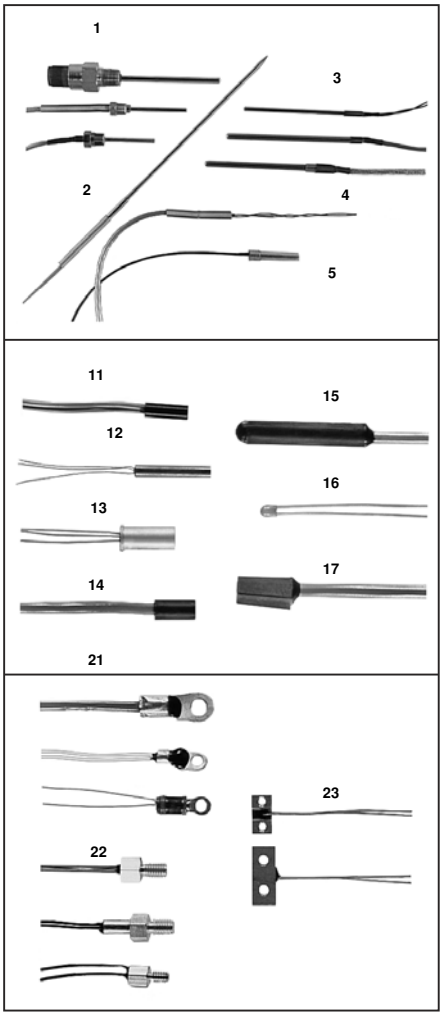
- Custom Designed using CAD to Individual Requirements
- Wide Range of Materials and Mounting Styles
- Typical Applications Include Automotive, Refrigeration, Air-conditioning and Industrial Controls.

TYPICAL ASSEMBLY STYLES AND APPLICATIONS

Standard and custom assemblies are available in a variety of configurations. The choice of assembly style is dependent on the application. The primary factors which determine the optimum configuration of a thermistor assembly are the operating environment, mounting, time response and minimum dissipation constant.

The two factors which do vary considerably with assembly design are time constant and dissipation constant. The time constant will typically be of greater duration in encapsulated thermistors. This is, of course, due to additional mass surrounding the thermistor element; therefore, extending the thermal transfer time. Dissipation constant will also be greater in assemblies. The additional housing mass serves well as a heat sink. Greater power is therefore required to induce self-heating.

Both time constant and dissipation constant will vary with the selected thermistor and housing. Heat transfer properties of the housing, thermistor location, mass and wire type determine these constants. It is recommended to evaluate or consult the factory in applications where T.C. and D.C. are critical.



• IMMERSION PROBES

1. **Thread Mounted:** Features a stainless steel tube with a hermetically sealed threaded hex fitting. Available in 1/8", 3/16" and 1/4" outer diameter tubes with 1/8" or 1/4" NPT hex fittings. Ideal for pressured, closed systems.
2. **Penetration Probe:** 7" long x 1/8" outer diameter stainless steel tube. Pointed tip easily penetrates soft and semi-frozen materials. Also ideal for soil and ground measurements.
3. **Tubular Stainless Steel:** 1/8", 3/16" and 1/4" outer diameter tubes in variable lengths. Good for universal immersion applications. Adaptable to use with compression thread mounts to give designer variable immersion depths.
4. **Tubular Pyrex®:** 6" long x 3/16" outer diameter glass tube. Excellent for lab use where a chemically inert probe is required.
5. **Flexible Immersion:** 1.5" long x .280" outer diameter aluminum housing. Flexible 105°C PVC tubing to protect wire and thermistor element from the liquid medium. Ideal assembly for intermittent immersion in hard to reach areas.

• GENERAL PURPOSE SENSORS

11. **Delrin® Housing:** 1/2" long x .170" outer diameter thermoplastic. Excellent for environmental controls and applications below 100°C.
12. **Stainless Steel Rod:** .875" x .156" outer diameter. Good for environmental chamber measurement where corrosive gasses exist.
13. **Gold Anodized Flanged Sensor:** .630" long x .275" outer diameter with a .298" flange diameter. An easy to mount press fitting.
14. **ABS Housing:** .476" long x .230" outer diameter. Black thermoplastic and configuration suits it well in air flow temperature measurements.
15. **Polyester Housing:** 1.50" long x .280" outer diameter. Heavy thermoplastic case makes it ideal for applications requiring delayed time responses. Ideal for process controls in refrigeration and heating.
16. **Epoxy Tip Probe:** Durable epoxy encapsulation, small size, fast time response, versatility and low cost make this sensor universally accepted. Assembly size will vary with wire and thermistor choice.
17. **Pipe Sensor:** .625" long with a cut-out radius of .250" suits this nylon thermoplastic as an ideal pipe sensor. Extensive use is seen in environmental and water heating/cooling systems.

• SURFACE SENSORS

21. **Ring Tongue Lugs:** Surface mount with a #4, #6, #8 or #10 screw. Excellent for measurement and control of surfaces where fast time responses are necessary.
22. **Heat Sink Sensors:** Available in brass, aluminum or stainless steel with various threads. A durable and practical surface sensor, especially where shock and vibration are present.
23. **Rectangular Block Sensors:** Aluminum blocks for measurement and control of large surface areas. Easily mountable with #6 screws.

FEATURES

- Fast acting for safe protection
- Well defined protection levels (trip and non-trip currents)
- High current/size ratio
- Excellent long-term stability
- Protective silicone coating against harsh environments

PRODUCT DESCRIPTION	TYPE	V MAX. (V)	R AT 25˚C (Ω)	Int (mA)	It (mA)	TRIP TIME (S)	MATCHED PAIRS (Ω)	D MAX. (MM)
PTC Thermistors Telecom Series 	**2322 661 91066**	100	4	85	280	4.0	0.5	7.0
	2322 661 93048	220	25	70	200	2.5	1.0	8.5
	2322 661 93147	230	10	100	250	3.0	1.0	7.0
	2322 661 93025	245	70	60	180	60.0	no	6.7
	2322 661 93037	245	33	75	150	1.2	1.5	7.0
	2322 661 93175	245	25	70	200	20.0	1.0	8.3
	2322 661 93142	245	25	65	200	3.4	0.5	6.8
	2322 662 93081	245	16	140	270	8.0	no	11.0
	2322 662 93074	245	10	140	270	8.0	no	11.0
	2322 661 93118	250	20	100	220	1.0	1.0	6.7
	2322 661 93148	250	25	70	175	1.3	1.0	7.0
	2322 663 93025	250	10	100	450	0.3	no	13.6
	2322 661 93078	285	8	135	400	6.0	0.5	8.3
	2322 661 93121	300	16	100	250	2.0	no	7.0
	2322 661 93124	350	10	100	270	4.0	no	8.5
	2322 661 93146	350	10	100	270	4.0	1.0	8.5
	2322 661 93135	600	50	50	140	1.0	1.0	8.5
	2322 661 93056	600	35	70	600	3.0	3.0	8.0
	2322 661 93139	600	25	70	170	4.0	0.5	8.5
	2322 662 93129	600	25	70	170	8.0	0.5	10.5
	2322 662 93114	600	10	175	400	7.0	0.5	13.0
	2322 662 93131	600	10	175	400	7.0	no	13.0
	307C1262	300	23	110	220		no	
	307C1254	265	18	125	250		no	
PTC Thermistors Surface Mount Devices Telecom Series 	**2322 661 97012**	245	10	165	270	3.0	no	6.5
	2322 661 97016	245	10	165	270	3.0	0.5	6.5
	2322 661 97005	265	25	120	220	1.3	1.0	6.5
	2322 661 97002	265	40	80	130	2.5	no	6.5
	2322 661 97004	300	20	150	250	1.5	no	6.5
	2322 661 97003	300	20	150	250	1.5	0.5	6.5
	2322 661 97018	300	20	120	250	1.4	0.5	6.5
	2322 661 97009	425	35	110	175	1.0	1.0	6.5
	2322 661 97019	425	50	90	150	0.8	1.0	6.5

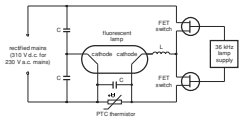
PRODUCT DESCRIPTION	TYPE	V MAX. (V)	R AT 25˚C (Ω)	Int (mA)	It (mA)	TRIP TIME (S)	MATCHED PAIRS (Ω)	D MAX. (mm)
PTC Thermistors For Telecom Current Limiting *For use on 60 VDC Telecom	**307C1262**	300	23	110	220			
	307C1254	265	18	125	250			
	307C	Family of current limiters for 12 volt through 240 volt operation. Typical Hold Currents range from						
PTC Thermistors Surface Mount Devices General Industry	**2322 661 97013**	24	3.3	400	650	6.0	N.A.	6.5
	2322 661 97011	60	9.4	150	300	4.0	N.A.	6.5

PRODUCT DESCRIPTION	TYPE	Int AT 25˚C (mA)	It AT 25˚C (mA)	R AT 25˚C (Ω)	V MAX. (V)	I MAX. (A)	D MAX. (mm)
PTC Thermistors Very Low Voltage (20 V) UL pending 	**2322 660 53514**	350	525	3.5	20	3.5	5.0
	2322 660 54714	470	705	2.3	20	4.7	5.0
	2322 661 56114	610	915	1.6	20	6.7	7.0
	2322 661 57014	700	1050	1.2	20	7.7	7.0
	2322 661 59014	900	1350	0.8	20	10.0	8.5
	2322 662 51224	1200	1800	0.5	20	13.0	10.5
	2322 662 51624	1600	2400	0.3	20	17.0	12.5
	2322 663 52224	2200	3300	0.2	20	24.0	16.5
	2322 664 53024	3000	4500	0.2	20	33.0	20.5
PTC Thermistors Low Voltage (30 - 60 V) UL 1434 (E148885) 	**2322 660 59491**	94	145	50.0	60	0.8	5.0
	2322 660 51311	130	195	25.0	60	1.2	5.0
	2322 660 91049	150	270	9.4	60	1.7	5.0
	2322 660 51811	180	270	13.0	30	1.7	5.0
	2322 660 52711	270	405	6.0	30	2.5	5.0
	2322 661 53211	320	480	5.0	30	3.5	7.0
	2322 661 54111	410	615	3.0	30	4.5	7.0
	2322 661 54711	470	705	2.5	30	5.0	8.5
	2322 661 55411	540	810	1.9	30	6.0	8.5
	2322 662 56111	610	915	1.7	30	7.0	10.5
	2322 662 57011	700	1050	1.3	30	8.0	10.5
	2322 662 58311	830	1245	1.1	30	10.0	12.5
	2322 662 59211	920	1380	0.9	30	11.0	12.5
	2322 663 51121	1170	1755	0.7	30	13.5	16.5
	2322 663 51321	1390	2085	0.5	30	16.0	16.5
	2322 664 51721	1770	2655	0.4	30	20.0	20.5
	2322 664 52021	2050	3075	0.3	30	23.0	20.5

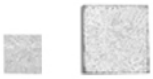
PRODUCT DESCRIPTION	TYPE	Int AT 25˚C (mA)	It AT 25˚C (mA)	R AT 25˚C (Ω)	V MAX. (V)	I MAX. (A)	D MAX. (mm)
PTC Thermistors Mains Voltage (145 V) UL 1434 (E148885) 	**2322 660 54792**	47	70	240.0	145	0.2	7.5
	2322 660 56592	65	100	115.0	145	0.3	7.3
	2322 660 59392	93	140	55.0	145	0.5	7.3
	2322 660 51112	110	165	40.0	145	0.5	7.3
	2322 660 51312	130	195	28.0	145	0.6	7.3
	2322 661 51712	170	255	19.0	145	1.0	8.3
	2322 661 52112	210	315	12.0	145	1.4	8.3
	2322 661 52512	250	375	9.4	145	2.0	9.0
	2322 661 52712	270	405	8.0	145	2.2	9.0
	2322 662 53212	320	480	6.7	145	3.0	10.5
	2322 662 53612	360	540	5.3	145	3.5	10.5
	2322 662 54112	410	615	4.6	145	4.5	11.7
	2322 662 54512	450	675	3.8	145	5.0	11.7
PTC Thermistors Mains Voltage (265 V) UL1434 (E148885) 	**2322 660 51193**	11	17	3000.0	265	0.1	5.0
	2322 660 51593	15	23	1900.0	265	0.1	5.0
	2322 660 51993	19	29	1200.0	265	0.1	5.0
	2322 660 52893	28	42	500.0	265	0.2	5.0
	2322 660 53993	39	59	260.0	265	0.3	5.0
	2322 660 56393	63	95	120.0	265	0.5	5.0
	2322 660 57693	76	115	85.0	265	0.6	5.0
	2322 660 59593	95	143	56.0	265	0.6	5.0
	2322 661 51113	110	165	48.0	265	0.7	7.0
	2322 661 51413	140	210	29.0	265	0.8	7.0
	2322 661 51713	170	255	22.0	265	0.9	8.5
	2322 661 51913	190	285	18.0	265	1.0	8.5
	2322 662 52113	210	315	17.0	265	1.3	10.5
	2322 662 52513	250	375	12.0	265	1.5	10.5
	2322 662 52813	280	420	11.0	265	1.8	12.5
	2322 662 53213	320	480	8.4	265	2.2	12.5
	2322 663 54013	400	600	6.6	265	3.0	16.5
	2322 663 54913	490	735	4.4	265	3.5	16.5
	2322 664 55913	590	855	4.0	265	4.5	20.5
	2322 664 57013	700	1050	2.8	265	5.5	20.5
	2322 664 58013	800	1200	2.1	265	5.5	20.5

PRODUCT DESCRIPTION	TYPE	V MAX. (V)	R AT 25°C (Ω)	Int (mA)	It (mA)	D MAX (mm)
Test and Measuring Equipment	2322 660 93034	600	1600	10	20	5.0
	2322 661 93113	600	400	1	100	10.0

PRODUCT DESCRIPTION	TYPE	R AT 25˚C (Ω)	INSTANT VOLT. (Vrms)	CONT. VOLT. (Vrms)	PREHEAT CURRENT (mA)	D MAX. (mm)
PTC Thermistors For Electronic Fluorecent Ballast *Electrode preheat thermistors for compact fluorescent lamps (CFL) and electronic ballasts. *Current limited, delayed startup extends lamp life. *Quiet, flicker free operation. *Both	307C1407	150	265	80	215	4.5
	307C1414	150	280	200	200	4.5
	307C1230	50	175	50	430	5.5
	307C1654	70	265	150	350	5.5
	307C1364	100	260	95	370	5.5
	307C1259	125	230	80	280	5.5
	307C1253	150	235	90	260	5.5
	307C1223	200	320	145	280	5.5
	307C1171	240	350	150	260	5.5
	307C1225	300	400	165	225	5.5
	307C1390	380	410	170	205	5.5
	307C1252	600	420	120	175	5.5
	307C1224	600	460	200	150	5.5
	307C1622	850	450	340	250	5.5
	307C1403	100	340	265	360	7.0
	307C1306	150	340	150	420	7.0
	307C1569	180	350	165	380	7.0
	307C1375	200	355	265	295	7.0
	307C1242	300	370	75	270	7.0
	307C1360	300	420	320	240	7.0
	307C1361	500	480	400	195	7.0
	307C1362	800	530	450	155	7.0
	307C1260	850	520	175	190	7.0
	307C1367	70	210	50	780	8.5
	307C1366	70	300	140	725	8.5
	307C1363	85	210	50	670	8.5
	307C1287	150	400	100	550	8.5
	307C1258	85	280	60	820	10.0
	307C1365	100	310	90	750	10.0
	307C1422	400	430	120	450	10.0
	2322 660 93049	625	500	100		5.0
	2322 660 93055	240	500	100		5.0
	2322 660 93066	100	500	265		5.0
	2322 661 93102	300	650	300		7.0
	2322 661 93114	100	700	300		7.0



PRODUCT DESCRIPTION	TYPE	GENERAL DESCRIPTION
PTC Thermistors For General Purpose Overcurrent Protection	307C	General Purpose resettable current limiters for 12 volt through 240 volt operation. Typical Hold Currents range from 20 to 600mA at 25°C, as described in full line catalog.

PRODUCT DESCRIPTION	TYPE	Tn (°C)	R MAX. AT Tn - 5˚C (Ω)	R MIN. AT Tn + 5˚C (kΩ)	R MIN. AT Tn + 15˚C (kΩ)	R AT 25˚C (Ω)
Sensing PTC Thermistors SMD 0805 	**2322 675 20707**	70	4700	4.7	15	470 +/- 50 %
	2322 675 20807	80	4700	4.7	15	
	2322 675 20907	90	4700	4.7	15	
	2322 675 21007	100	4700	4.7	15	
	2322 675 21107	110	4700	4.7	15	
	2322 675 21207	120	4700	4.7	15	
	2322 675 21307	130	4700	4.7	15	
	2322 675 21407	140	4700	4.7	15	
Sensing PTC Thermistors Short Leads 	**2322 671 91102**	70	50 to 570	0.570 to 50	4	120 max
	2322 671 91103	80	50 to 550	1.33 to 50	4	
	2322 671 91104	90	50 to 550	1.33 to 50	4	
	2322 671 91105	100	50 to 550	1.33 to 50	4	
	2322 671 91106	110	50 to 550	1.33 to 50	4	
	2322 671 91107	120	50 to 550	1.33 to 50	4	
	2322 671 91109	130	50 to 550	1.33 to 50	4	
	2322 671 91112	140	50 to 550	1.33 to 50	4	
	2322 671 91114	150	50 to 550	1.33 to 50	4	
Sensing PTC Thermistors Long Leads 	**2322 671 91152**	70	50 to 570	0.570 to 50	4	120 max
	2322 671 91153	80	50 to 550	1.33 to 50	4	
	2322 671 91154	90	50 to 550	1.33 to 50	4	
	2322 671 91155	100	50 to 550	1.33 to 50	4	
	2322 671 91156	110	50 to 550	1.33 to 50	4	
	2322 671 91157	120	50 to 550	1.33 to 50	4	
	2322 671 91159	130	50 to 550	1.33 to 50	4	
	2322 671 91162	140	50 to 550	1.33 to 50	4	
	2322 671 91164	150	50 to 550	1.33 to 50	4	
Sensing PTC Thermistors Lug 	**2322 671 91202**	70	50 to 570	0.570 to 50	4	120 max
	2322 671 91203	80	50 to 550	1.33 to 50	4	
	2322 671 91204	90	50 to 550	1.33 to 50	4	
	2322 671 91205	100	50 to 550	1.33 to 50	4	
	2322 671 91206	110	50 to 550	1.33 to 50	4	
	2322 671 91207	120	50 to 550	1.33 to 50	4	
	2322 671 91209	130	50 to 550	1.33 to 50	4	
	2322 671 91212	140	50 to 550	1.33 to 50	4	
	2322 671 91214	150	50 to 550	1.33 to 50	4	
Sensing PTC Thermistors Naked chips 	**2322 671 91072**	70	50 to 570	0.570 to 50	4	120 max
	2322 671 91073	80	50 to 550	0.570 to 50	4	
	2322 671 91074	90	50 to 550	0.570 to 50	4	
	2322 671 91075	100	50 to 550	0.570 to 50	4	
	2322 671 91076	110	50 to 550	1.33 to 50	4	
	2322 671 91077	120	50 to 550	1.33 to 50	4	
	2322 671 91078	125	50 to 550	1.33 to 50	4	
	2322 671 91079	130	50 to 550	1.33 to 50	4	
	2322 671 91081	135	50 to 550	1.33 to 50	4	
	2322 671 91082	140	50 to 550	1.33 to 50	4	
	2322 671 91083	145	50 to 550	1.33 to 50	4	
	2322 671 91084	150	50 to 550	1.33 to 50	4	
	2322 671 91085	155	50 to 550	1.33 to 50	4	
	2322 671 91086	160	50 to 550	1.33 to 50	4	
	2322 671 91087	170	50 to 550	1.33 to 50	4	

PRODUCT DESCRIPTION	TYPE	R AT25˚C (Ω)	MIN Iin (App)	Rcoil MIN. (Ω)	DECAY TIME (ms)	IRESIDUAL AFTER 180ms (mApp)
PTC Thermistors Dual Type Umax = 276 Vrms	**2322 662 96209**	30	11	17	60	2
	2322 662 96211	26	14	14	40	2
	2322 662 96216	22	16	14	40	4
	2322 662 96616	22	16	10	65	2
	2322 662 96724	18	20	10	50	2
	2322 662 96626	18	18	10	75	2
	2322 662 96702	14	25	10	40	4
	2322 662 96742	14	25	10	45	4
	2322 662 96706	12	21	10	70	5
	2322 662 96746	12	21	10	80	5
	2322 662 96708	9	20	13	95	5
	2322 662 96648	9	20	13	115	10
	2322 662 96709	7	21	20	110	10
PTC Thermistors Dual Type Umax = 145 Vrms	**2322 662 96213**	7	19	5	80	10
	2322 662 96705	5	27	5	85	14
	2322 662 96745	5	30	4	85	10
	2322 662 96743	3	30	4	115	10
PTC Thermistors Mono Type Umax = 276 Vrms	**2322 662 96281**	30	11	17	75	20
	2322 662 96688	26	12	14	90	20
	2322 662 96286	22	16	14	40	20
	2322 662 96682	18	20	10	50	25
	2322 662 96683	14	25	10	40	30
	2322 662 96692	14	25	10	45	30
	2322 662 96684	12	21	10	70	30
	2322 662 96696	12	21	10	80	30
	2322 662 96687	9	20	13	95	30
	2322 662 96698	9	20	13	115	25
	2322 662 96681	7	21	20	110	30
PTC Thermistors Mono Type Umax = 145 Vrms	**2322 662 96285**	7	19	5	80	40
	2322 662 96686	5	27	5	85	40
	2322 662 96695	5	30	4	85	40
	2322 662 96693	3	30	4	115	40
PTC Thermistors Double Mono Type Umax = 276 Vrms	**2322 662 96754**	9 (18x2)	33	7	25	70
	2322 662 96752	7 (14x2)	34	7	25	80
	2322 662 96756	6 (12x2)	36	7	25	85
	2322 662 96758	4.5 (9x2)	33	10	35	130
	2322 662 96759	3.5 (7x2)	35	13	35	135
PTC Thermistors Double Mono Type Umax = 145 Vrms	**2322 662 96757**	3.5 (7x2)	27	3	45	255
	2322 662 96755	2.5 (5x2)	34	3	45	200
	2322 662 96753	1.5 (3x2)	39	3	45	250

UL 1434 and C-UL (E148885)

IEC 60065 (Licence 12166)

PRODUCT DESCRIPTION	TYPE	TOLERANCE MINIMUM	TOLERANCE MAXIMUM	RESISTANCE RANGE	OPTIONS
PTC Thermistor Surface Mount Chip	TFPT0603	1.00	10.00	100-1K	Nickel Barrier
	TFPT0805	1.00	10.00	100-5K	Tin/Lead
	TFPT1206	1.00	10.00	100-10K	Wrap Around Terminations
Linear PTC Thermistor	PTFT0603	5.00	10.00	10-10K	See data sheet for full specification
	PTFT0805	5.00	10.00	10-10K	Nickel Barrier, Tin/Lead Wraparound Terminations. Alumina Substrate with PTC Thick Film Element
	PTFT1206	5.00	10.00	10-15K	

PRODUCT DESCRIPTION	TYPE	SWITCHING TEMPERATURE	RESISTANCE RANGE (Ω)
PTC Switching Thermistor	DP	50˚C to 120˚C	1R- 500R
PTC Overcurrent Thermistor	SSP	70˚C to 170˚C	8R - 500R

PRODUCT DESCRIPTION	TYPE	RO ± 30% (Ω)	SWITCH TIME (SEC)	VOLTAGE MAX. (Vrms)	CURRENT MAX. (Arms)	CASE STYLE
PTCR Motor Start Thermistor Packages for PSC compressor motor starting UL Recognized - File E97640 Packaged start thermistors for 120/240 volt unitary air conditioner compressor motors.	305C20	35	0.25	410	10	C
	305C21	50	0.35	410	8	C
	305C22	75	0.50	410	6	C
	305C19	30	0.50	500	18	B
	305C12	40	0.60	500	15	B
	305C2	85	1.00	500	12	B
	305C9	15	0.50	500	36	A
	305C11	20	0.60	500	30	A
	305C1	42.5	1.00	500	24	A

PRODUCT DESCRIPTION	TYPE	RO ± 30% (Ω)	SIZE (mm) DIA X THK	RATED VOLTAGE (Vrms)	VOLTAGE (MAX.) (Vrms)	CURRENT (MAX.) (Arms)
PTCR Motor Start Thermistor Pellets for compressor motor starting & current relays. UL Recognized - File E107611 Full range of resistances covering typical refrigerator compressors motors are available in standard 16, 17.5 and 20mm diameter sizes.	307C1674	5	16 x 2.5	120	200	10
	307C1700	6.8	16 x 2.5	120	200	10
	307C1711	10	16 x 2.5	120	200	10
	307C1014	5	17.5 x 2.5	120	180	12
	307C1668	5	17.5 x 2.5	120	180	12
	307C1643	6.8	17.5 x 2.5	120	200	10
	307C1644	6.8	17.5 x 2.5	120	200	10
	307C1650	10	17.5 x 2.5	120	200	10
	307C1651	10	17.5 x 2.5	120	200	10
	307C1024	38	20 x 5	240	410	10
	307C1409	50	20 x 5	240	410	8
	307C1410	75	20 x 5	240	410	6