Applications

- Overcurrent and short-circuit protection

Features

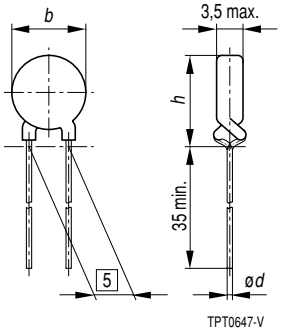
- Lead-free terminals
- Wide range of rated currents: 30 mA up to 1 A
- Manufacturer's logo and type designation stamped on
- UL approval for T_{Ref} = 120 °C and 130 °C to UL 1434 with V_{max} = 65 V and V_N = 63 V (file number E69802)
- VDE approval (license number 104843 E)

Options

- Leadless disks and leaded disks without coating available on request
- Thermistors with diameter $b \leq 11{,}0$ mm are also available on tape (to IEC 60286-2)

Delivery mode

- Cardboard strips (standard)
- Cardboard tape reeled or in AMMO pack on request



Dimensions (mm)

Type	T_{Ref}	b_{max}	∅d	h_{max}
C 910	130 °C	22,0	0,8	25,5
C 930	80/120 °C	22,0	0,6	25,5
C 930	130 °C	17,5	0,8	21,0
C 940	80/120 °C	17,5	0,6	21,0
C 940	130 °C	13,5	0,6	17,0
C 950	80/120 °C	13,5	0,6	17,0
C 950	130 °C	11,0	0,6	14,5
C 960	80/120 °C	11,0	0,6	14,5
C 960	130 °C	9,0	0,6	12,5
C 970	80/120 °C	9,0	0,6	12,5
C 970	130 °C	6,5	0,6	10,0
C 980	80/120 °C	6,5	0,6	10,0
C 980	130 °C	4,0	0,6	7,5
C 990	80/120 °C	4,0	0,5	7,5

General technical data

Max. operating voltage (T_A = 60 °C)	V_{max}	80	VDC or VAC
Rated voltage	V_N	63	VDC or VAC
Switching cycles (typ.)	N	100	
Resistance tolerance	ΔR_N	± 25 % for T_{Ref} = 80 °C or 120 °C ± 20 % for T_{Ref} = 130 °C	
Operating temperature range (V = 0)	T_{op}	– 40/+ 125	°C
($V = V_{max}$)	T_{op}	0/+ 60	°C

Electrical specifications and ordering codes

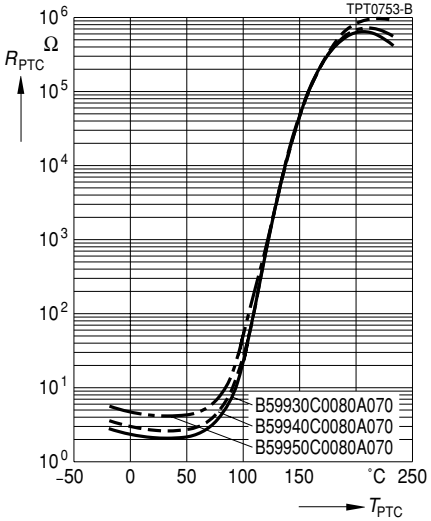
Type	I_N	I_S	I_{Smax} (V=V_{max})	I_r (typ.) (V=V_{max})	T_{Ref}	R_N	R_{min}	Ordering code
	mA	mA	A	mA	°C	Ω	Ω	
C 910	1000	1500	10,0	60	130	1,2	0,8	B59910C0130A070
C 930	700	1400	10,0	50	120	1,65	1,1	B59930C0120A070
C 930	700	1100	8,0	50	130	2,2	1,5	B59930C0130A070
C 940	450	900	8,0	40	120	2,3	1,5	B59940C0120A070
C 940	450	690	5,5	30	130	3,3	2,2	B59940C0130A070
C 930	340	700	10,0	35	80	1,65	1,1	B59930C0080A070
C 950	320	640	5,5	30	120	3,7	2,4	B59950C0120A070
C 950	320	500	4,3	25	130	4,9	3,2	B59950C0130A070
C 960	250	500	4,3	25	120	5,6	3,7	B59960C0120A070
C 960	250	380	3,0	20	130	8,0	5,2	B59960C0130A070
C 940	245	500	8,0	25	80	2,3	1,5	B59940C0080A070
C 950	170	350	5,5	20	80	3,7	2,4	B59950C0080A070
C 970	150	300	3,0	20	120	9,4	6,2	B59970C0120A070
C 970	150	240	1,0	18	130	20	13,2	B59970C0130A070
C 960	130	265	4,3	15	80	5,6	3,7	B59960C0080A070
C 970	90	190	3,0	11	80	9,4	6,2	B59970C0080A070
C 980	85	170	1,0	16	120	25	16,5	B59980C0120A070
C 980	85	130	0,7	15	130	62	40,9	B59980C0130A070
C 980	50	110	1,0	8	80	25	16,5	B59980C0080A070
C 990	50	100	0,7	12	120	55	36,3	B59990C0120A070
C 990	30	60	0,7	5	80	55	36,3	B59990C0080A070

Reliability data

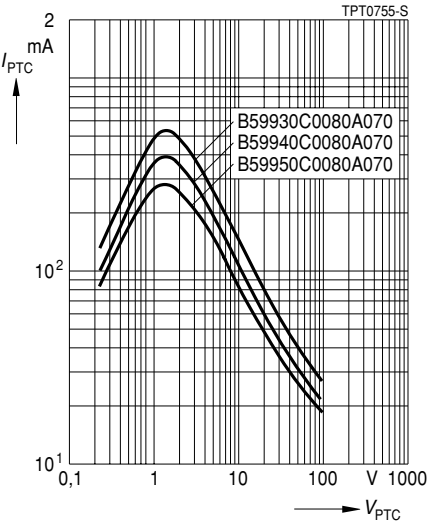
Test	Standard	Test conditions	$\lvert\Delta R_{25}/R_{25}\rvert$
Switching test at room temperature	IEC 60738-1	I_{Smax} V_{max} Number of cycles: 100	< 25%
Dry heat at upper category temperature	IEC 60738-1	Storage at upper category temperature for t: 1000 h	< 25%
Life test at V_{max}/T_{op}	IEC 60738-1	Storage at V_{max}/T_{op} for t: 1000 h	< 25%
Storage in damp heat	IEC 60068-2-3	Temperature of air: 40 °C Relative humidity of air: 93% Duration: 56 days	< 10%
Rapid change of temperature in air	IEC 60068-2-14, Test N_a	$T = T_{LCT}$, $T = T_{UCT}$ Number of cycles: 5 t: 30 min	< 10%
Vibration	IEC 60068-2-6, Test F_C	f = 10–55 Hz h = 0,75 mm (respectively 10 g) t: 3 · 2 h	< 5%
Bump	IEC 60068-2-27	Pulse shape: half-sine a: = 50 g Pulse duration: 1 ms; 6 · 3 pulses	< 5%
Climatic sequence	IEC 60068-2-30	Dry heat: $T = T_{UCT}$ t: 16 h Damp heat first cycle Cold: $T = T_{LCT}$ t: 2 h Damp heat 5 cycles	< 10%

Characteristics (typical) for T_{Ref} = 80 °C

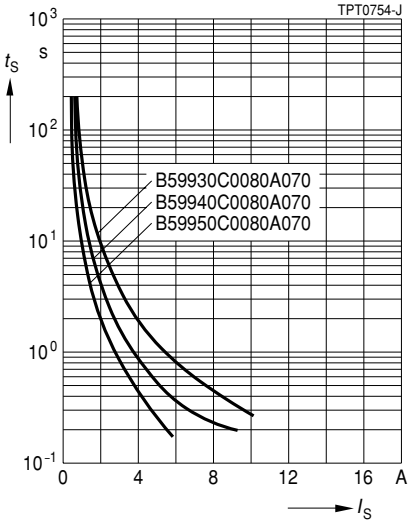
PTC resistance R_{PTC} versus PTC temperature T_{PTC} (measured at low signal voltage)



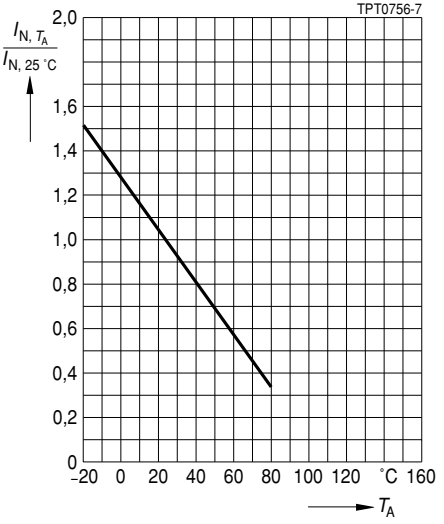
PTC current I_{PTC} versus PTC voltage V_{PTC} (measured at 25 °C in still air)



Switching time t_S versus switching current I_S (measured at 25 °C in still air)

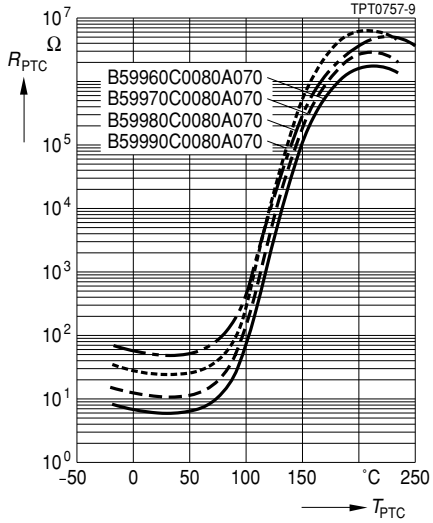


Rated current I_N versus ambient temperature T_A (measured in still air)

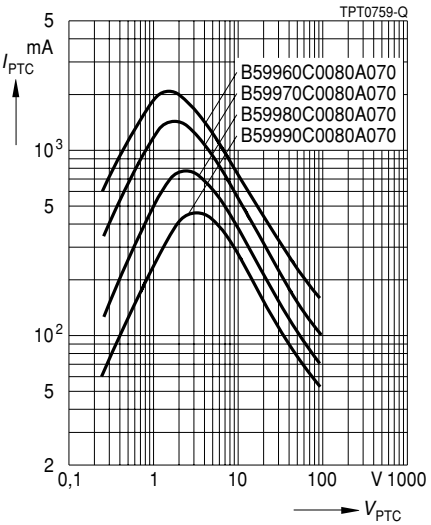


Characteristics (typical) for T_{Ref} = 80 °C

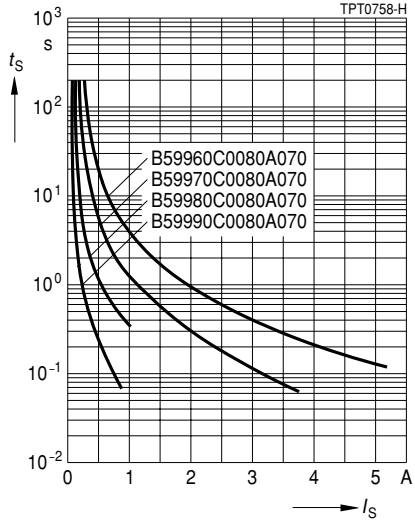
PTC resistance R_{PTC} versus PTC temperature T_{PTC} (measured at low signal voltage)



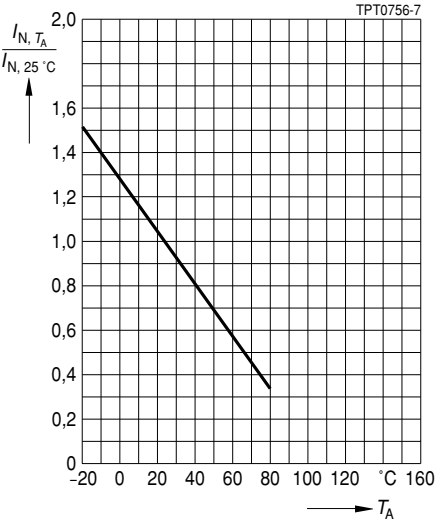
PTC current I_{PTC} versus PTC voltage V_{PTC} (measured at 25 °C in still air)



Switching time t_S versus switching current I_S (measured at 25 °C in still air)

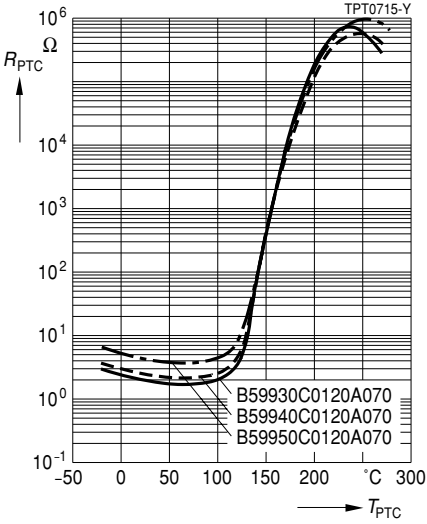


Rated current I_N versus ambient temperature T_A (measured in still air)

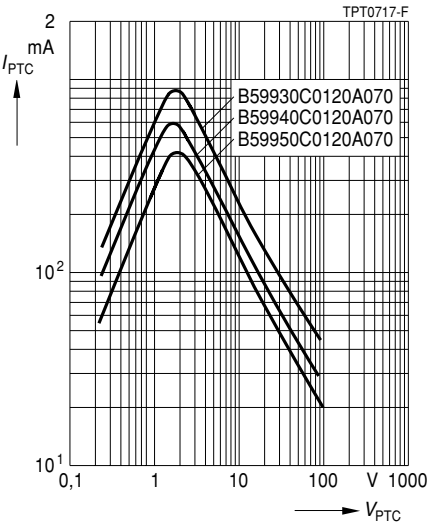


Characteristics (typical) for T_{Ref} = 120 °C

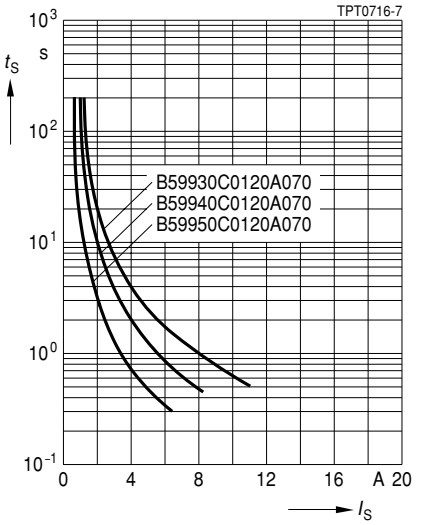
PTC resistance R_{PTC} versus PTC temperature T_{PTC} (measured at low signal voltage)



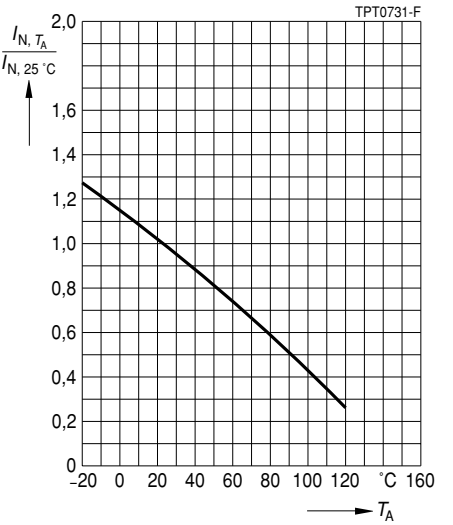
PTC current I_{PTC} versus PTC voltage V_{PTC} (measured at 25 °C in still air)



Switching time t_S versus switching current I_S (measured at 25 °C in still air)

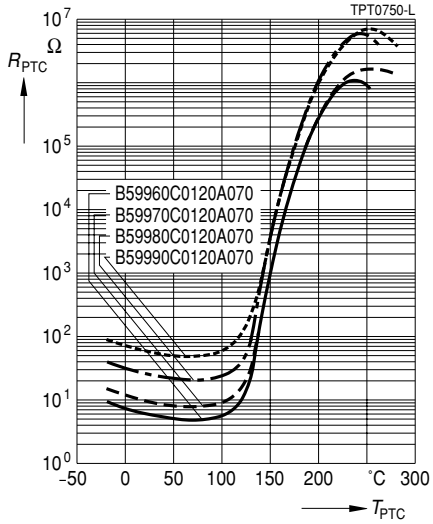


Rated current I_N versus ambient temperature T_A (measured in still air)

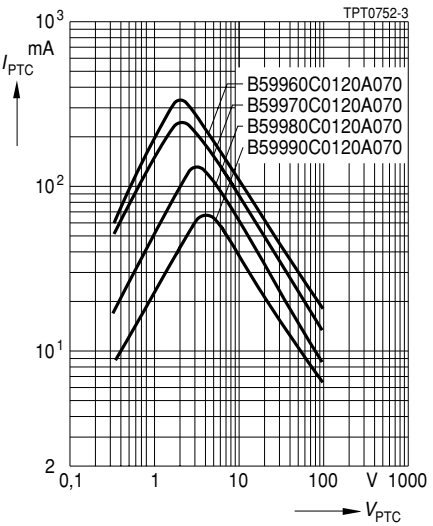


Characteristics (typical) for T_{Ref} = 120 °C

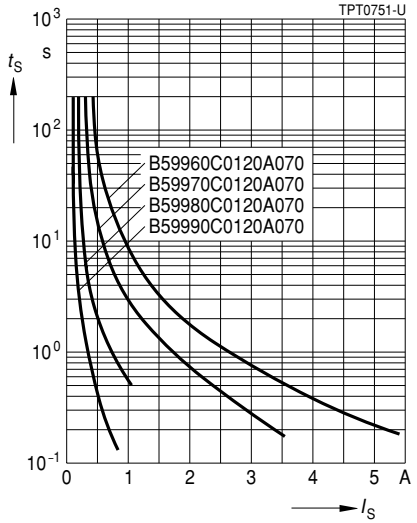
PTC resistance R_{PTC} versus PTC temperature T_{PTC} (measured at low signal voltage)



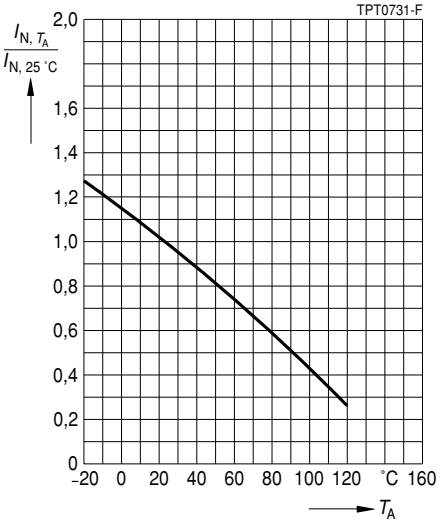
PTC current I_{PTC} versus PTC voltage V_{PTC} (measured at 25 °C in still air)



Switching time t_S versus switching current I_S (measured at 25 °C in still air)

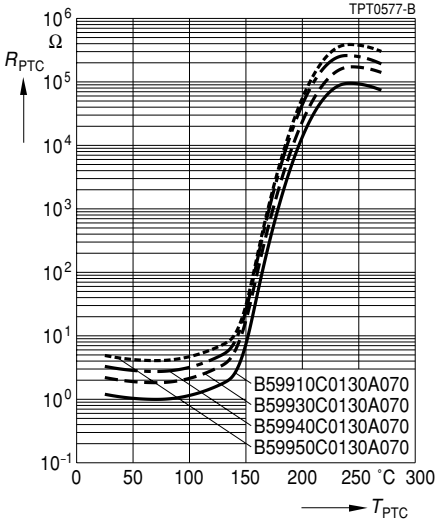


Rated current I_N versus ambient temperature T_A (measured in still air)

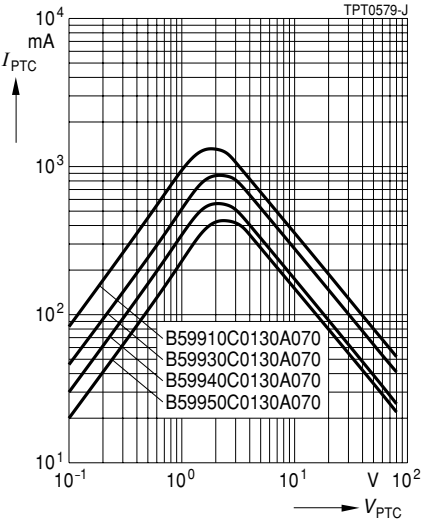


Characteristics (typical) for T_{Ref} = 130 °C

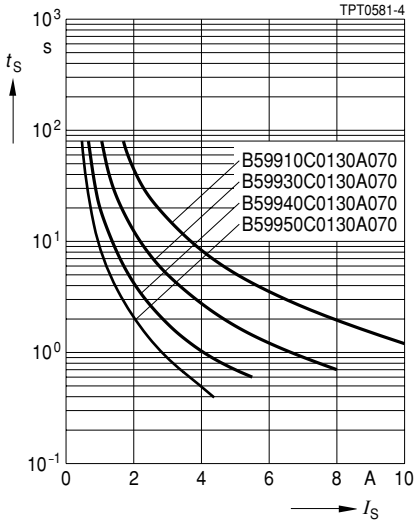
PTC resistance R_{PTC} versus PTC temperature T_{PTC} (measured at low signal voltage)



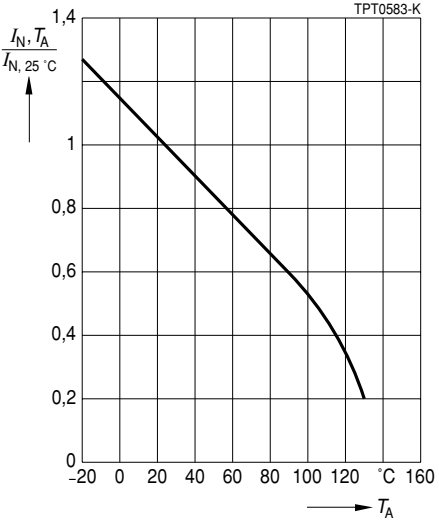
PTC current I_{PTC} versus PTC voltage V_{PTC} (measured at 25 °C in still air)



Switching time t_S versus switching current I_S (measured at 25 °C in still air)

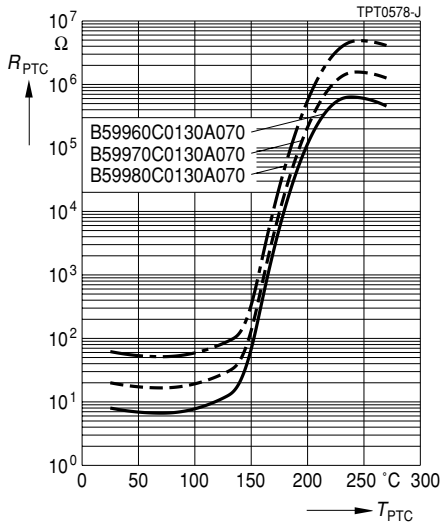


Rated current I_N versus ambient temperature T_A (measured in still air)

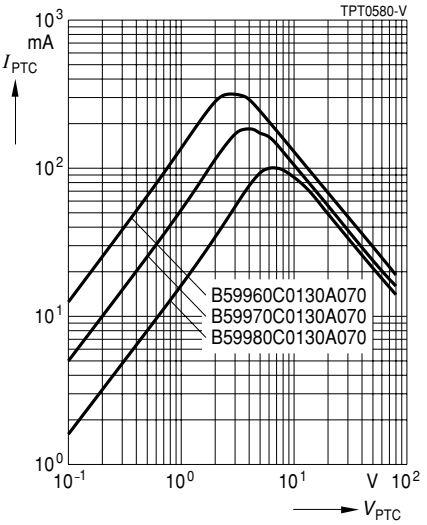


Characteristics (typical) for T_{Ref} = 130 °C

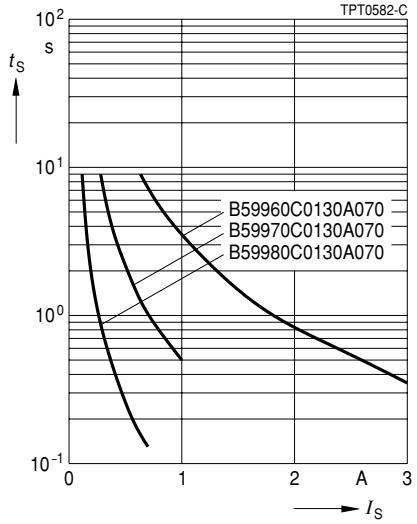
PTC resistance R_{PTC} versus PTC temperature T_{PTC} (measured at low signal voltage)



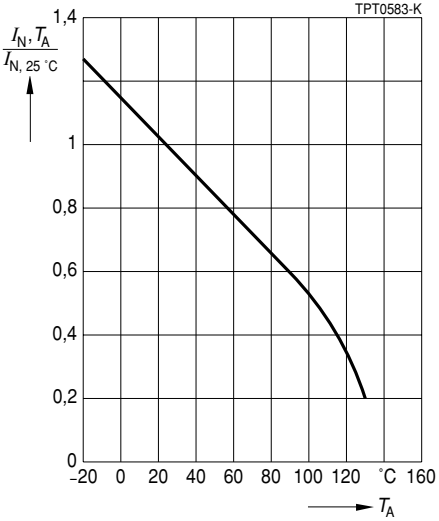
PTC current I_{PTC} versus PTC voltage V_{PTC} (measured at 25 °C in still air)



Switching time t_S versus switching current I_S (measured at 25 °C in still air)



Rated current I_N versus ambient temperature T_A (measured in still air)



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