N		Datenblatt / Data sheet	
Netz-Thyristor **Phase Control Thyristor**		**T360N**	Infineon Technologies Bipolar GmbH & Co. KG

Elektrische Eigenschaften / Electrical properties

Höchstzulässige Werte / Maximum rated values

Periodische Vorwärts- und Rückwärts-Spitzensperrspannung repetitive peak forward off-state and reverse voltages	T_{vj} = -40°C... $T_{vj\,max}$	V_{DRM}, V_{RRM}	2000 2400 2200 2600	V V
Vorwärts-Stossspitzensperrspannung non-repetitive peak forward off-state voltage	T_{vj} = -40°C... $T_{vj\,max}$	V_{DSM}	2000 2400 2200 2600	V V
Rückwärts-Stossspitzensperrspannung non-repetitive peak reverse voltage	T_{vj} = +25°C... $T_{vj\,max}$	V_{RSM}	2100 2500 2300 2700	V V
Durchlassstrom-Grenzeffektivwert maximum RMS on-state current		I_{TRMSM}	550	A
Dauergrenzstrom average on-state current	T_C = 85 °C	I_{TAVM}	360	A
Dauergrenzstrom average on-state current Durchlaßstrom-Effektivwert RMS on-state current	T_C = 55 °C, θ = 180°sin, t_P = 10 ms	I_{TAVM} I_{TRMS}	510 800	A A
Stossstrom-Grenzwert surge current	T_{vj} = 25 °C, t_P = 10 ms T_{vj} = $T_{vj\,max}$, t_P = 10 ms	I_{TSM}	5000 4500	A A
Grenzlastintegral I²t-value	T_{vj} = 25 °C, t_P = 10 ms T_{vj} = $T_{vj\,max}$, t_P = 10 ms	I²t	125 100	10^3 A²s 10^3 A²s
Kritische Stromsteilheit critical rate of rise of on-state current	DIN IEC 60747-6 f = 50 Hz, i_{GM} = 1 A, di_G/dt = 1 A/µs	$(di_T/dt)_{cr}$	60	A/µs
Kritische Spannungssteilheit critical rate of rise of off-state voltage	T_{vj} = $T_{vj\,max}$, v_D = 0,67 V_{DRM} 5.Kennbuchstabe / 5th letter C 5.Kennbuchstabe / 5th letter F	$(dv_D/dt)_{cr}$	 500 1000	 V/µs V/µs

Charakteristische Werte / Characteristic values

Durchlassspannung on-state voltage	T_{vj} = $T_{vj\,max}$, i_T = 1100 A T_{vj} = $T_{vj\,max}$, i_T = 300 A	v_T	max. 2,88 max. 1,54	V V
Schleusenspannung threshold voltage	T_{vj} = $T_{vj\,max}$	$V_{(TO)}$	1,1	V
Ersatzwiderstand slope resistance	T_{vj} = $T_{vj\,max}$	r_T	1,6	mΩ
Durchlasskennlinie 100 A ≤ i_T ≤ 1800 A on-state characteristic $v_T = A + B \cdot i_T + C \cdot \ln(i_T + 1) + D \cdot \sqrt{i_T}$	T_{vj} = $T_{vj\,max}$	A= B= C= D=	6,180E-01 2,031E-03 1,451E-01 -2,943E-02	
Zündstrom gate trigger current	T_{vj} = 25 °C, v_D = 12V	I_{GT}	max. 200	mA
Zündspannung gate trigger voltage	T_{vj} = 25 °C, v_D = 12V	V_{GT}	max. 2	V
Nicht zündender Steuerstrom gate non-trigger current	T_{vj} = $T_{vj\,max}$, v_D = 12V T_{vj} = $T_{vj\,max}$, v_D = 0,5 V_{DRM}	I_{GD}	max. 10 max. 5	mA mA
Nicht zündende Steuerspannung gate non-trigger voltage	T_{vj} = $T_{vj\,max}$, v_D = 0,5 V_{DRM}	V_{GD}	max. 0,2	V
Haltestrom holding current	T_{vj} = 25°C, v_D = 12V	I_H	max. 300	mA
Einraststrom latching current	T_{vj} = 25°C, v_D = 12V, R_{GK} ≥ 10 Ω i_{GM} = 1 A, di_G/dt = 1 A/µs, t_g = 20 µs	I_L	max. 1200	mA
Vorwärts- und Rückwärts-Sperrstrom forward off-state and reverse current	T_{vj} = $T_{vj\,max}$ v_D = V_{DRM}, v_R = V_{RRM}	i_D, i_R	max. 50	mA
Zündverzug gate controlled delay time	DIN IEC 60747-6 T_{vj} = 25 °C, i_{GM} = 1 A, di_G/dt = 1 A/µs	t_{gd}	max. 4	µs

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Elektrische Eigenschaften / Electrical properties
Charakteristische Werte / Characteristic values

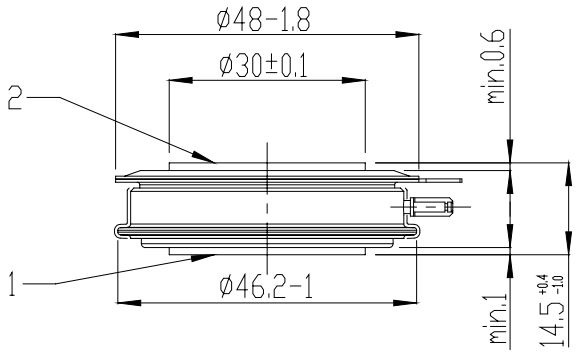
Freiwerdezeit circuit commutated turn-off time	$T_{vj} = T_{vj\,max}$, $i_{TM} = I_{TAVM}$ v_{RM} = 100 V, v_{DM} = 0,67 V_{DRM} dv_D/dt = 20 V/µs, $-di_T/dt$ = 10 A/µs 4.Kennbuchstabe / 4th letter O	t_q	typ. 350	µs

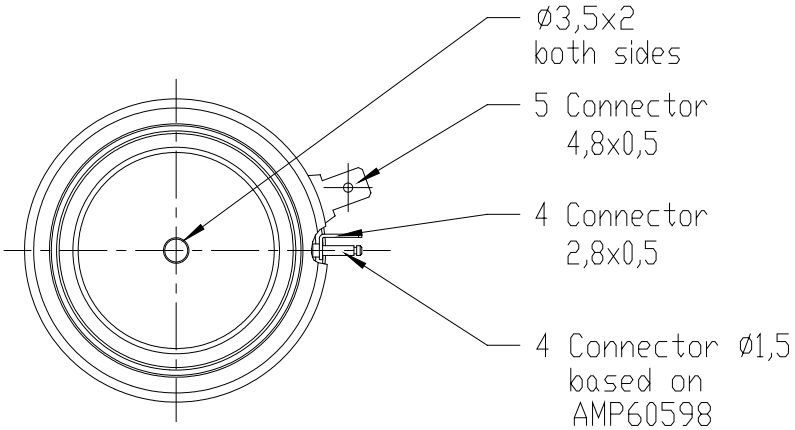
Thermische Eigenschaften / Thermal properties

Innerer Wärmewiderstand thermal resistance, junction to case	Kühlfläche / cooling surface beidseitig / two-sided, θ = 180°sin beidseitig / two-sided, DC Anode / anode, θ = 180°sin Anode / anode, DC Kathode / cathode, θ = 180°sin Kathode / cathode, DC	R_{thJC}	 max. 0,044 max. 0,042 max. 0,067 max. 0,065 max. 0,121 max. 0,119	 °C/W °C/W °C/W °C/W °C/W °C/W
Übergangs-Wärmewiderstand thermal resistance, case to heatsink	Kühlfläche / cooling surface beidseitig / two-sides einseitig / single-sides	R_{thCH}	 max. 0,01 max. 0,02	 °C/W °C/W
Höchstzulässige Sperrschichttemperatur maximum junction temperature		$T_{vj\,max}$	125	°C
Betriebstemperatur operating temperature		$T_{c\,op}$	-40...+125	°C
Lagertemperatur storage temperature		T_{stg}	-40...+150	°C

Mechanische Eigenschaften / Mechanical properties

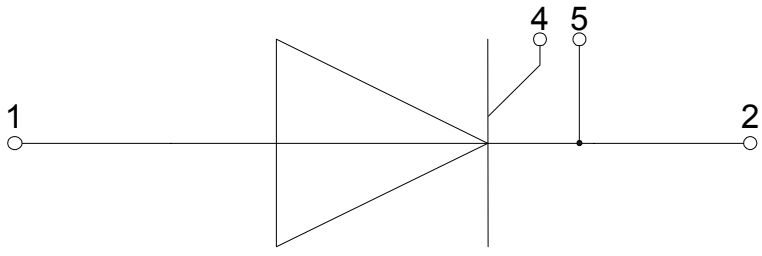
Gehäuse, siehe Anlage case, see annex			Seite 3 page 3	
Si-Element mit Druckkontakt Si-pellet with pressure contact				
Anpresskraft clamping force		F	5...10	kN
Steueranschlüsse control terminals	Gate (flat) Gate (round, based on AMP 60598) Kathode / cathode		A 2,8x0,5 Ø 1,5 A 4,8x0,5	mm mm mm
Gewicht weight		G	typ. 110	g
Kriechstrecke creepage distance			6	mm
Schwingfestigkeit vibration resistance	f = 50 Hz		50	m/s²





strike distance: 5,0mm
creepage distance: 6,0mm

overall height based
on contact pressure



1: Anode / Anode

2: Kathode / Cathode

4: Gate

5: Hilfskathode/
Auxiliary Cathode