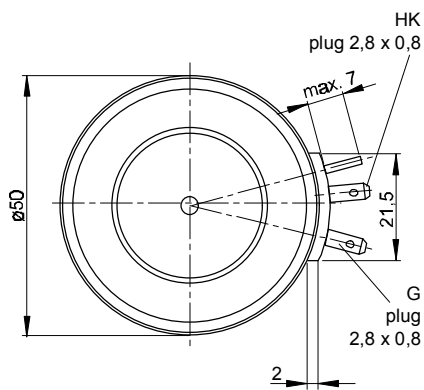
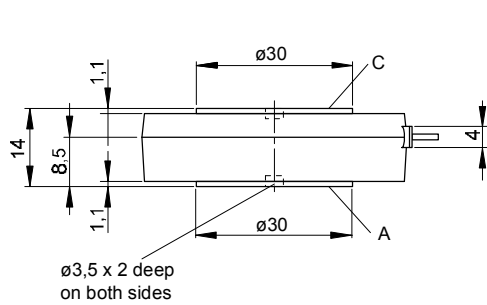




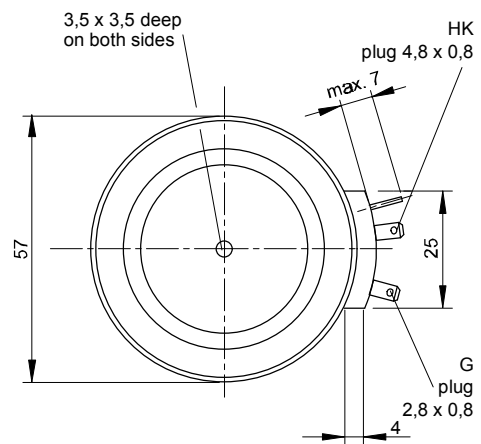
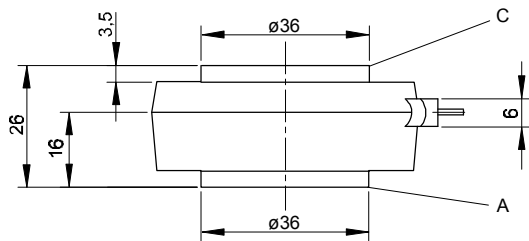
European Power-Semiconductor and Electronics Company

## Marketing Information

### T 618 N



### T 619 N



# T 618 / 619 N

## Elektrische Eigenschaften

### Höchstzulässige Werte

Periodische Vorwärts- und Rückwärts-Schnittstromspannung  
Vorwärts-Stoßspitzensperrspannung

Rückwärts-Stoßspitzensperrspannung

Durchlaßstrom-Grenzeffektivwert

Dauergrenzstrom

Stoßstrom-Grenzwert

Grenzlastintegral

Kritische Stromsteilheit

Kritische Spannungssteilheit

## Electrical properties

### Maximum rated values

repetitive peak forward off-state and reverse voltages

non-repetitive peak forward off-state voltage

non-repetitive peak reverse voltage

RMS on-state current

average on-state current

surge current

I<sup>2</sup> t-value

critical rate of rise of on-state current

critical rate of rise of off-state voltage

$$t_{vj} = -40^{\circ}\text{C} \dots t_{vj\text{ max}}$$

$$t_{vj} = -40^{\circ}\text{C} \dots t_{vj\text{ max}}$$

$$t_{vj} = +25^{\circ}\text{C} \dots t_{vj\text{ max}}$$

$$t_c = 85^{\circ}\text{C}$$

$$t_c = 67^{\circ}\text{C}$$

$$t_{vj} = 25^{\circ}\text{C}, t_p = 10\text{ ms}$$

$$t_{vj} = t_{vj\text{ max}}, t_p = 10\text{ ms}$$

$$t_{vj} = 25^{\circ}\text{C}, t_p = 10\text{ ms}$$

$$t_{vj} = t_{vj\text{ max}}, t_p = 10\text{ ms}$$

$$\text{DIN IEC 747-6, } f = 50\text{ Hz, } V_L = 10\text{ V, } i_{GM} = 1\text{ A, } di_G/dt = 1\text{ A}/\mu\text{s}$$

$$t_{vj} = t_{vj\text{ max}}, V_D = 0,67 V_{DRM}$$

5. Kennbuchstabe/5th letter F

$$V_{DRM}, V_{RRM} \quad 600\ 800\ 1000\ 1200\ \text{V}$$

$$V_{DSM} \quad 600\ 800\ 1000\ 1200\ \text{V}$$

$$V_{RSM} \quad 700\ 900\ 1100\ 1300\ \text{V}$$

$$I_{TRMSM} \quad 1500\ \text{A}$$

$$I_{TAVM} \quad 1250\ \text{A}$$

$$I_{TSM} \quad 618\ \text{A}$$

$$I_{TSM} \quad 11000\ \text{A}$$

$$I^2 t \quad 9500\ \text{A}$$

$$I^2 t \quad 605000\ \text{A}^2\text{s}$$

$$I^2 t \quad 451000\ \text{A}^2\text{s}$$

$$(di_T/dt)_{cr} \quad 200\ \text{A}/\mu\text{s}$$

$$(dv_D/dt)_{cr} \quad 1000\ \text{V}/\mu\text{s}$$

## Charakteristische Werte

Durchlaßspannung

Schleusenspannung

Ersatzwiderstand

Zündstrom

Zündspannung

Nicht zündender Steuerstrom

Nicht zündende Steuerspannung

Haltestrom

Einraststrom

Vorwärts- und Rückwärts-Sperrstrom

Zündverzögerung

Freiwerdezeit

## Characteristic values

on-state voltage

threshold voltage

slope resistance

gate trigger current

gate trigger voltage

gate non-trigger current

gate non-trigger voltage

holding current

latching current

forward off-state and reverse currents

gate controlled delay time

circuit commutated turn-off time

$$t_{vj} = t_{vj\text{ max}}, i_T = 2000\ \text{A}$$

$$t_{vj} = t_{vj\text{ max}}$$

$$t_{vj} = t_{vj\text{ max}}$$

$$t_{vj} = 25^{\circ}\text{C}, V_D = 6\ \text{V}$$

$$t_{vj} = 25^{\circ}\text{C}, V_D = 6\ \text{V}$$

$$t_{vj} = t_{vj\text{ max}}, V_D = 6\ \text{V}$$

$$t_{vj} = t_{vj\text{ max}}, V_D = 0,5 V_{DRM}$$

$$t_{vj} = 25^{\circ}\text{C}, V_D = 6\ \text{V}, R_A = 5\ \Omega$$

$$t_{vj} = 25^{\circ}\text{C}, V_D = 6\ \text{V}, R_{GK} \geq 10\ \Omega$$

$$i_{GM} = 1\ \text{A}, di_G/dt = 1\ \text{A}/\mu\text{s}, t_g = 20\ \mu\text{s}$$

$$t_{vj} = t_{vj\text{ max}}, V_D = V_{DRM}, V_R = V_{RRM}$$

$$\text{DIN IEC 747-6, } t_{vj} = 25^{\circ}\text{C}, i_{GM} = 1\ \text{A,}$$

$$di_G/dt = 1\ \text{A}/\mu\text{s}$$

$$t_{vj} = t_{vj\text{ max}}, I_{TM} = I_{TAVM}, V_{RM} = 100\ \text{V}, V_{DM} = 0,67 t_{vj}$$

$$V_{DRM}, dv_D/dt = 20\ \text{V}/\mu\text{s}, -di_T/dt = 10\ \text{A}/\mu\text{s,}$$

$$4\ \text{Kennbuchstabe/4th letter O}$$

$$V_T \quad \text{max. } 1,75\ \text{V}$$

$$V_{T(TO)} \quad 0,8\ \text{V}$$

$$r_T \quad 0,42\ \text{m}\Omega$$

$$I_{GT} \quad \text{max. } 250\ \text{mA}$$

$$V_{GT} \quad \text{max. } 2,2\ \text{V}$$

$$I_{GD} \quad \text{max. } 10\ \text{mA}$$

$$V_{GD} \quad \text{max. } 0,25\ \text{V}$$

$$I_H \quad \text{max. } 300\ \text{mA}$$

$$I_L \quad \text{max. } 1200\ \text{mA}$$

$$i_D, i_R \quad \text{max. } 50\ \text{mA}$$

$$t_{gd} \quad \text{max. } 4\ \mu\text{s}$$

$$\text{typ. } 250\ \mu\text{s}$$

## Thermische Eigenschaften

Innerer Wärmewiderstand

Übergangs-Wärmewiderstand

Höchstzul. Sperrschichttemperatur

Betriebstemperatur

Lagertemperatur

## Thermal properties

thermal resistance, junction to case

thermal resistance, case to heatsink

max. junction temperature

operating temperature

storage temperature

Kühlfläche/cooling surface

beidseitig/two-sided,  $\Theta = 180^{\circ}$  sin

beidseitig/two-sided, DC

Anode/anode,  $\Theta = 180^{\circ}$  sin

Anode/anode, DC

Kathode/cathode,  $\Theta = 180^{\circ}$  sin

Kathode/cathode, DC

Kühlfläche/cooling surface

beidseitig/two-sided

einseitig/single-sided

R<sub>thJC</sub>

$$\text{max. } 0,045\ ^{\circ}\text{C}/\text{W}$$

$$\text{max. } 0,041\ ^{\circ}\text{C}/\text{W}$$

$$\text{max. } 0,074\ ^{\circ}\text{C}/\text{W}$$

$$\text{max. } 0,070\ ^{\circ}\text{C}/\text{W}$$

$$\text{max. } 0,104\ ^{\circ}\text{C}/\text{W}$$

$$\text{max. } 0,100\ ^{\circ}\text{C}/\text{W}$$

R<sub>thCK</sub>

$$\text{max. } 0,0075\ ^{\circ}\text{C}/\text{W}$$

$$\text{max. } 0,0150\ ^{\circ}\text{C}/\text{W}$$

t<sub>vj max</sub>

$$125\ ^{\circ}\text{C}$$

t<sub>c op</sub>

$$-40 \dots +125\ ^{\circ}\text{C}$$

t<sub>stg</sub>

$$-40 \dots +140\ ^{\circ}\text{C}$$

## Mechanische Eigenschaften

Si-Elemente mit Druckkontakt, Amplifying-Gate

Anpreßkraft

Gewicht

Kriechstrecke

Feuchteklasse

Schwingfestigkeit

Gehäuse

## Mechanical properties

Si-pellet with pressure contact, amplifying gate

clamping force

weight

creepage distance

humidity classification

vibration resistance

case

DIN 40040

f = 50 Hz

F

$$6 \dots 12\ \text{kN}$$

G

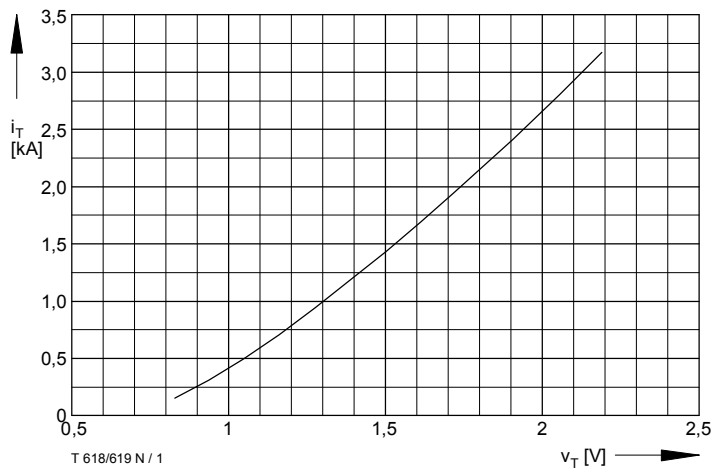
$$\text{typ. } 120\ \text{g}$$

$$17\ \text{mm}$$

$$\text{C}$$

$$50\ \text{m/s}^2$$

Titelseite / front page



T 618/619 N / 1

Bild / Fig. 1  
Grenzdurchlaßkennlinie / Limiting on-state characteristic  $i_T = f(v_T)$   
 $t_{vj} = t_{vj \max}$