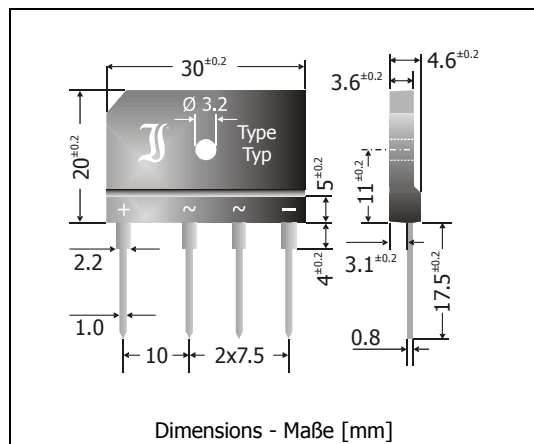


## GBI20A ... GBI20M

### Silicon-Bridge-Rectifiers Silizium-Brückengleichrichter

Version 2012-10-08



|                                                                                       |                    |
|---------------------------------------------------------------------------------------|--------------------|
| Nominal current<br>Nennstrom                                                          | 20 A               |
| Repetitive peak reverse voltage<br>Periodische Spitzensperrspannung                   | 50...1000 V        |
| Plastic case<br>Kunststoffgehäuse                                                     | 30 x 20 x 3.6 [mm] |
| Weight approx. – Gewicht ca.                                                          | 7 g                |
| Plastic material has UL classification 94V-0<br>Gehäusematerial UL94V-0 klassifiziert |                    |
| Standard packaging bulk<br>Standard Lieferform lose im Karton                         |                    |



Recognized Product – Underwriters Laboratories Inc.® File E175067  
Anerkanntes Produkt – Underwriters Laboratories Inc.® Nr. E175067

**Maximum ratings****Grenzwerte**

| Type<br>Typ | Max. alternating input voltage<br>Max. Eingangswchelspannung<br>$V_{VRMS}$ [V] | Repetitive peak reverse voltage<br>Periodische Spitzensperrspannung<br>$V_{RRM}$ [V] <sup>1)</sup> |
|-------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| GBI20A      | 35                                                                             | 50                                                                                                 |
| GBI20B      | 70                                                                             | 100                                                                                                |
| GBI20D      | 140                                                                            | 200                                                                                                |
| GBI20G      | 280                                                                            | 400                                                                                                |
| GBI20J      | 420                                                                            | 600                                                                                                |
| GBI20K      | 560                                                                            | 800                                                                                                |
| GBI20M      | 700                                                                            | 1000                                                                                               |

|                                                                                                      |                          |                |                                |
|------------------------------------------------------------------------------------------------------|--------------------------|----------------|--------------------------------|
| Repetitive peak forward current<br>Periodischer Spitzenstrom                                         | $f > 15$ Hz              | $I_{FRM}$      | 45 A <sup>2)</sup>             |
| Peak forward surge current, 50/60 Hz half sine-wave<br>Stoßstrom für eine 50/60 Hz Sinus-Halbwelle   | $T_A = 25^\circ\text{C}$ | $I_{FSM}$      | 220/240 A                      |
| Rating for fusing, $t < 10$ ms<br>Grenzlastintegral, $t < 10$ ms                                     | $T_A = 25^\circ\text{C}$ | $i^2t$         | 240 A <sup>2</sup> s           |
| Operating junction temperature – Sperrschichttemperatur<br>Storage temperature – Lagerungstemperatur |                          | $T_j$<br>$T_s$ | -50...+150°C<br>-50...+150°C   |
| Admissible torque for mounting<br>Zulässiges Anzugsdrehmoment                                        | M3                       |                | 7 ± 10% lb.in.<br>0.8 ± 10% Nm |

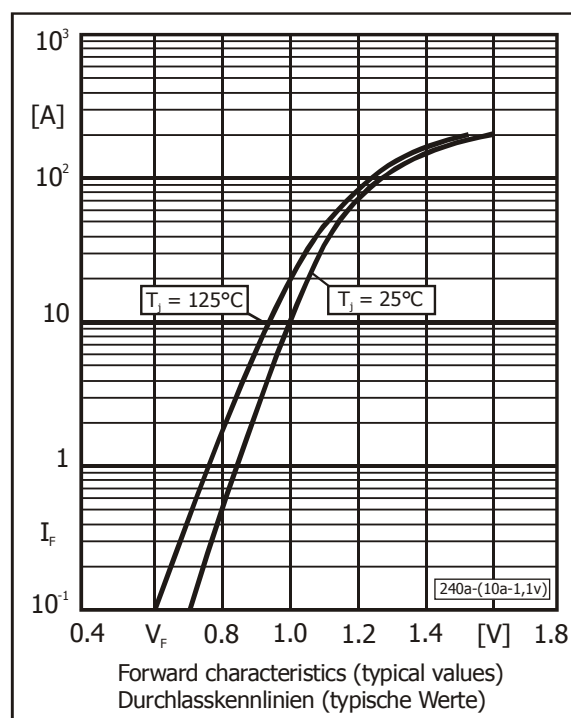
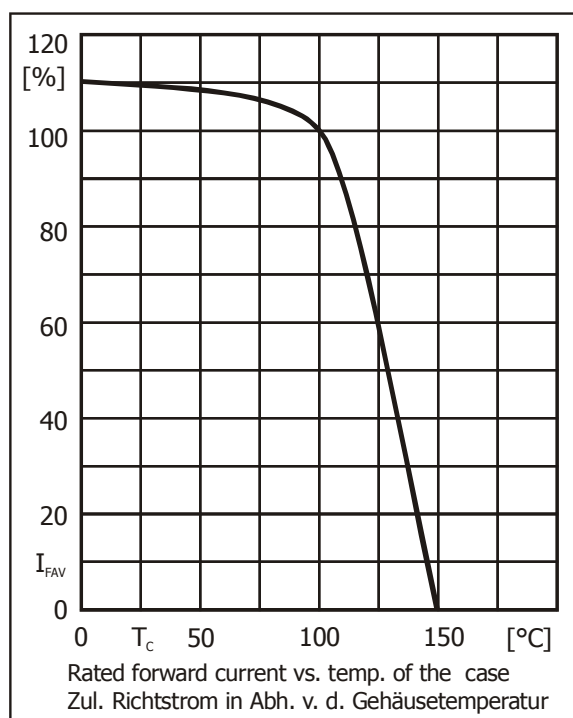
1 Valid for one branch – Gültig für einen Brückenzweig

2 Valid, if leads are kept to ambient temperature  $T_A = 50^\circ\text{C}$  at a distance of 5 mm from case  
Gültig, wenn die Anschlüsse in 5 mm vom Gehäuse auf Umgebungstemperatur  $T_A = 50^\circ\text{C}$  gehalten werden

**Characteristics**
**Kennwerte**

|                                                                                             |                           |                       |                        |                                            |
|---------------------------------------------------------------------------------------------|---------------------------|-----------------------|------------------------|--------------------------------------------|
| Max. rectified current without cooling fin<br>Dauergrenzstrom ohne Kühlblech                | $T_A = 50^\circ\text{C}$  | R-load<br>C-load      | $I_{FAV}$<br>$I_{FAV}$ | $3.6\text{ A}^{1)}$<br>$2.9\text{ A}^{1)}$ |
| Max. rectified current with forced cooling<br>Dauergrenzstrom mit forcierter Kühlung        | $T_C = 100^\circ\text{C}$ | R-load<br>C-load      | $I_{FAV}$<br>$I_{FAV}$ | $20.0\text{ A}$<br>$15.0\text{ A}$         |
| Forward voltage – Durchlass-Spannung                                                        | $T_j = 25^\circ\text{C}$  | $I_F = 10.0\text{ A}$ | $V_F$                  | $< 1.1\text{ V}^{2)}$                      |
| Leakage current – Sperrstrom                                                                | $T_j = 25^\circ\text{C}$  | $V_R = V_{RRM}$       | $I_R$                  | $< 5\text{ }\mu\text{A}$                   |
| Thermal resistance junction to ambient air<br>Wärmewiderstand Sperrschicht – umgebende Luft |                           |                       | $R_{thJA}$             | $< 15\text{ K/W}^{1)}$                     |
| Thermal resistance junction to case<br>Wärmewiderstand Sperrschicht – Gehäuse               |                           |                       | $R_{thJC}$             | $< 1.5\text{ K/W}$                         |

| Type<br>Typ | Max. admissible load capacitor<br>Max. zulässiger Ladekondensator<br>$C_L$ [ $\mu\text{F}$ ] | Min. required protective resistor<br>Min. erforderl. Schutzwiderstand<br>$R_L$ [ $\Omega$ ] |
|-------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| GBI20A      | 20000                                                                                        | 0.2                                                                                         |
| GBI20B      | 10000                                                                                        | 0.4                                                                                         |
| GBI20D      | 5000                                                                                         | 0.8                                                                                         |
| GBI20G      | 2500                                                                                         | 1.6                                                                                         |
| GBI20J      | 1500                                                                                         | 2.4                                                                                         |
| GBI20K      | 1000                                                                                         | 3.2                                                                                         |
| GBI20M      | 800                                                                                          | 4.0                                                                                         |



- Valid, if leads are kept to ambient temperature at a distance of 5 mm from case  
Gültig, wenn die Anschlüsse in 5 mm Abstand vom Gehäuse auf Umgebungstemperatur gehalten werden
- Valid for one branch – Gültig für einen Brückenast