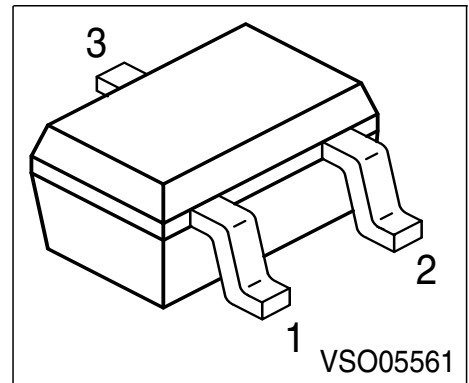
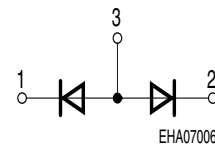
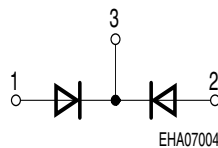
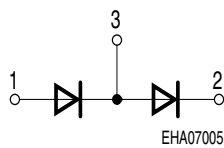
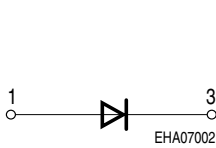


**Silicon Schottky Diodes**

- For low-loss, fast-recovery, meter protection, bias isolation and clamping applications
- Integrated diffused guard ring
- Low forward voltage


**BAS 125W**
**BAS 125-04W**
**BAS 125-05W**
**BAS 125-06W**

**ESD: Electrostatic discharge sensitive device, observe handling precaution!**

| Type        | Marking | Pin Configuration |        |           | Package |
|-------------|---------|-------------------|--------|-----------|---------|
| BAS 125W    | 13s     | 1 = A             | 2 n.c. | 3 = C     | SOT-323 |
| BAS 125-04W | 14s     | 1 = A1            | 2 = C2 | 3 = C1/A2 | SOT-323 |
| BAS 125-05W | 15s     | 1 = A1            | 2 = A2 | 3 = C1/2  | SOT-323 |
| BAS 125-06W | 16s     | 1 = C1            | 2 = C2 | 3 = A1/2  | SOT-323 |

**Maximum Ratings**

| Parameter  | Symbol    | Value       | Unit             |
|--|-----------|-------------|------------------|
| Diode reverse voltage  | $V_R$     | 25          | V                |
| Forward current  | $I_F$     | 100         | mA               |
| Surge forward current ( $t < 100\mu s$ )                           | $I_{FSM}$ | 500         |                  |
| Total power dissipation BAS 125W, $T_S = 93\text{ }^\circ\text{C}$ | $P_{tot}$ | 250         | mW               |
| BAS 125-04W, -05W, -06W, $T_S = 84\text{ }^\circ\text{C}$          | $P_{tot}$ | 250         |                  |
| Junction temperature   | $T_j$     | 150         | $^\circ\text{C}$ |
| Operating temperature range  | $T_{op}$  | -55 ... 150 |                  |
| Storage temperature  | $T_{stg}$ | -55 ... 150 |                  |

**Thermal Resistance**

|  |            |            |     |
|--|------------|------------|-----|
| Junction - ambient <sup>1)</sup> BAS 125W        | $R_{thJA}$ | $\leq 310$ | K/W |
| Junction - ambient <sup>1)</sup> BAS 125-04W ... | $R_{thJA}$ | $\leq 425$ |     |
| Junction - soldering point BAS 125W              | $R_{thJS}$ | $\leq 230$ |     |
| Junction - soldering point BAS 125-04W ...       | $R_{thJS}$ | $\leq 265$ |     |

1) Package mounted on epoxy pcb 40mm x 40mm x 1.5mm / 0.5cm<sup>2</sup> Cu

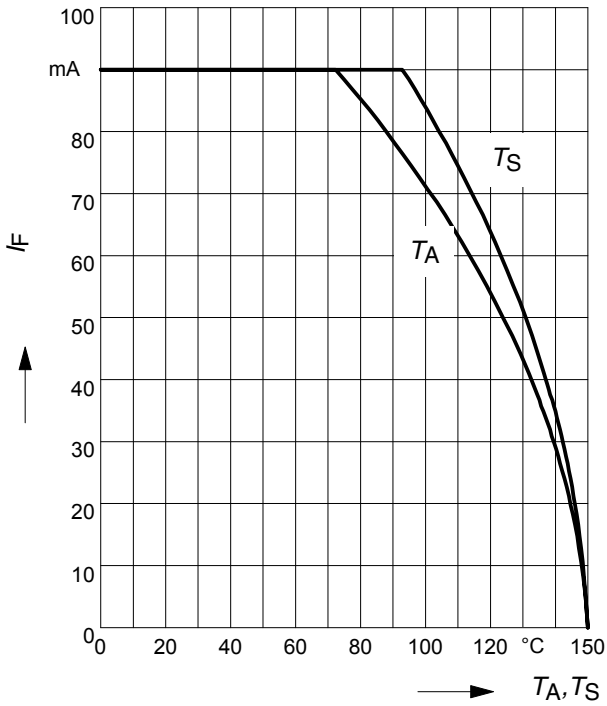
**Electrical Characteristics** at  $T_A = 25^\circ\text{C}$ , unless otherwise specified.

| Parameter  | Symbol | Values |                   |                   | Unit     |
|--|--------|--------|-------------------|-------------------|----------|
|  |        | min.   | typ.              | max.              |          |
| <b>DC characteristics</b>  |        |        |                   |                   |          |
| Reverse current<br>$V_R = 20\text{ V}$<br>$V_R = 25\text{ V}$                          | $I_R$  | -      | -                 | 100<br>150        | nA       |
| Forward voltage<br>$I_F = 1\text{ mA}$<br>$I_F = 10\text{ mA}$<br>$I_F = 35\text{ mA}$ | $V_F$  | -      | 385<br>530<br>800 | 400<br>650<br>950 | mV       |
| <b>AC characteristics</b>  |        |        |                   |                   |          |
| Diode capacitance<br>$V_R = 0\text{ V}$ , $f = 1\text{ MHz}$                           | $C_T$  | -      | -                 | 1.1               | pF       |
| Differential forward resistance<br>$I_F = 5\text{ mA}$ , $f = 10\text{ kHz}$           | $R_f$  | -      | 16                | -                 | $\Omega$ |

**Forward current  $I_F = f(T_A^*; T_S)$**

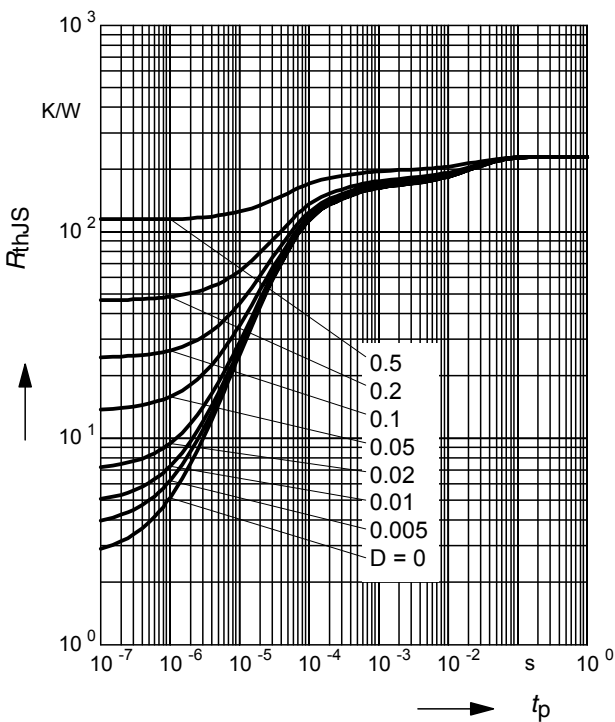
\* Package mounted on epoxy

BAS 125W



**Permissible Pulse Load  $R_{thJS} = f(t_p)$**

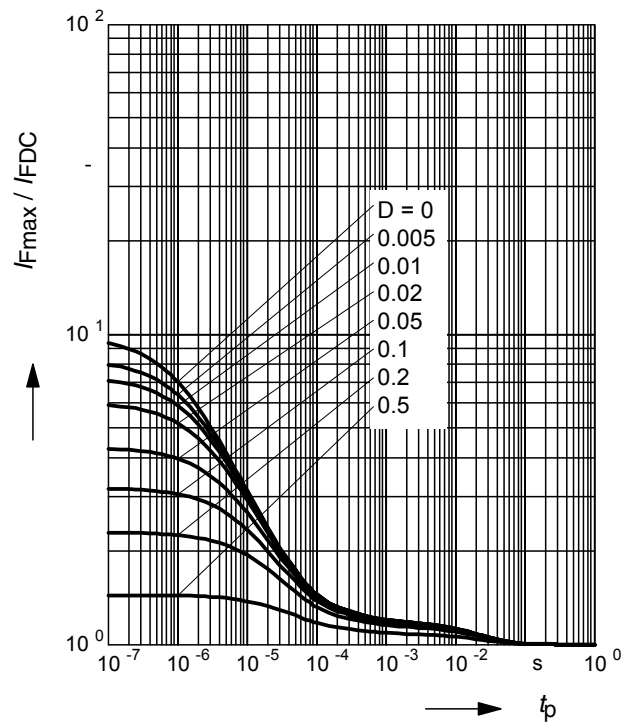
BAS 125W



**Permissible Pulse Load**

$I_{Fmax} / I_{FDC} = f(t_p)$

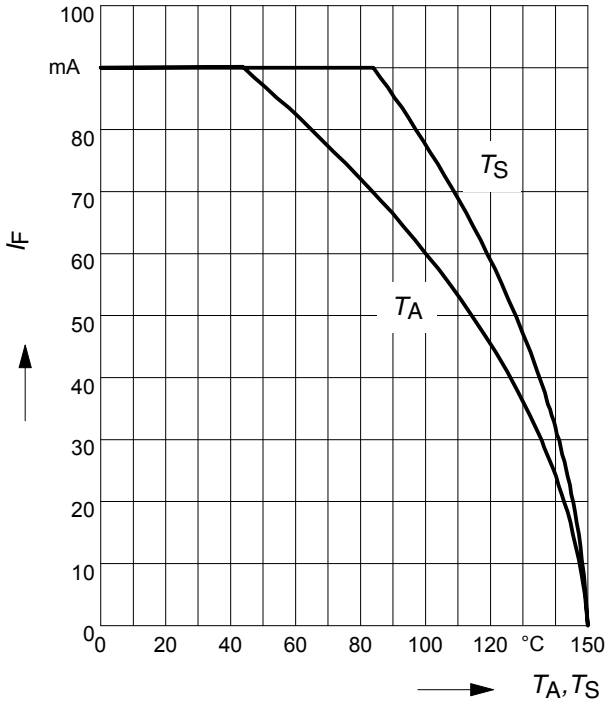
BAS 125W



**Forward current  $I_F = f(T_A^*; T_S)$**

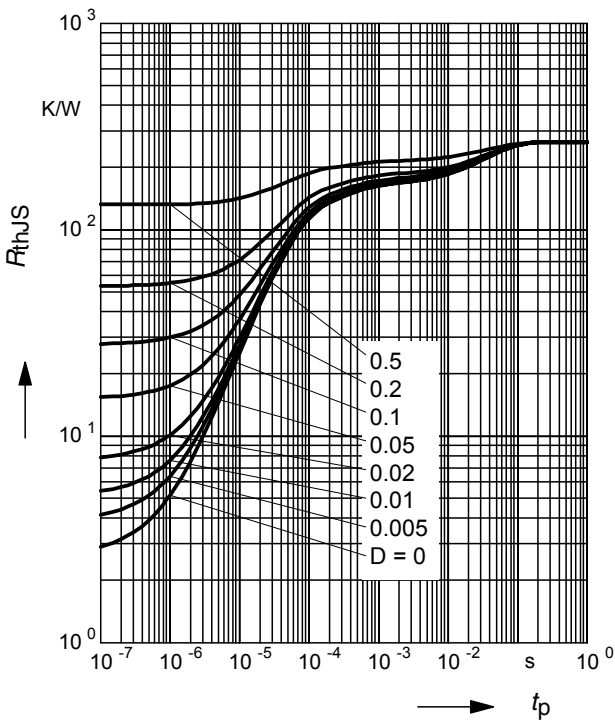
\* Package mounted on epoxy

BAS 125-04W ... ( $I_F$  per diode)



**Permissible Pulse Load  $R_{thJS} = f(t_p)$**

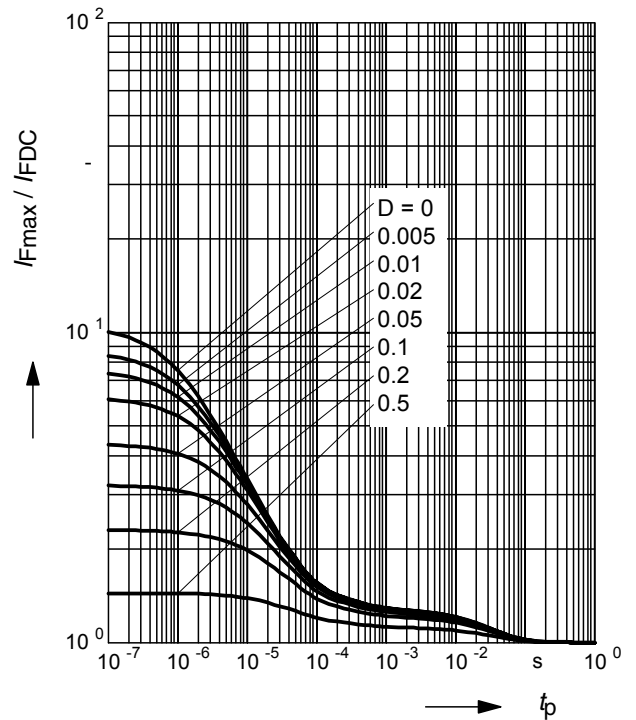
BAS 125-04W ...



**Permissible Pulse Load**

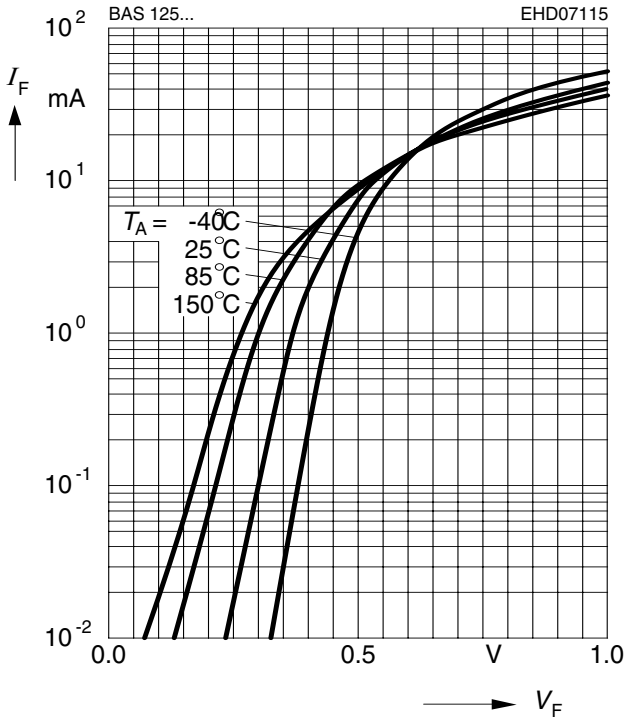
$I_{Fmax} / I_{FDC} = f(t_p)$

BAS 125-04W ...



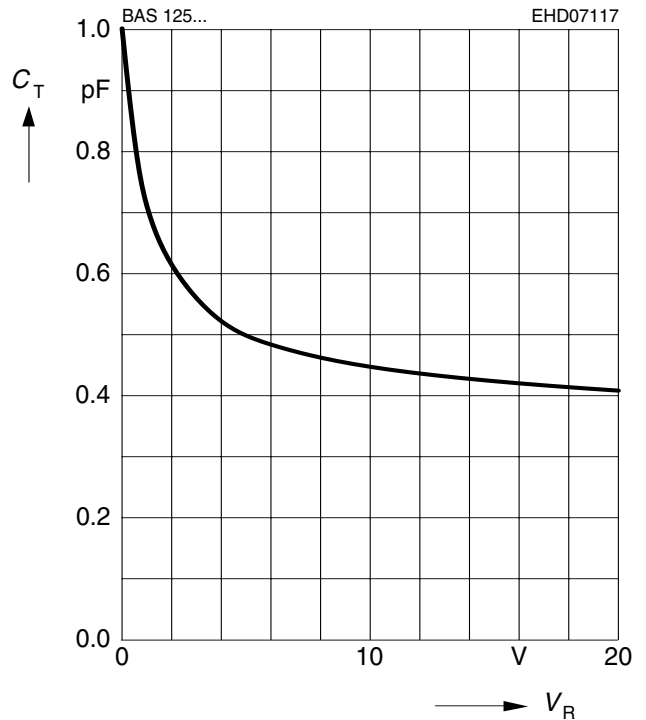
**Forward current  $I_F = f(V_F)$**

$T_A =$  Parameter



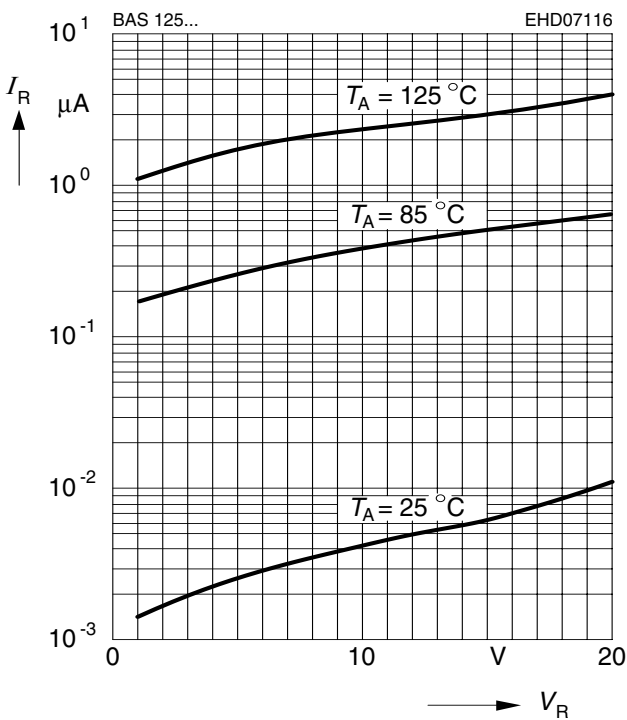
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



**Reverse current  $I_R = f(V_R)$**

$T_A =$  Parameter



**Differential forward resistance  $r_f = f(I_F)$**

$f = 10\text{kHz}$

