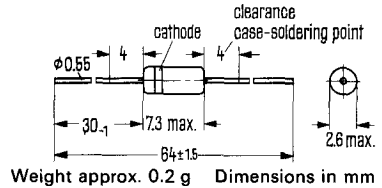


General-purpose silicon diodes

Silicon diodes BAY 44, BAY 45 and BAY 46 are suitable for universal application in equipment with high operating temperatures and where space is at a premium. They are provided with a glass-case 51 A 2 DIN 41880 (DO-7). The cathode end is marked by a colour ring.

| Type | Order number |
|--------|--------------|
| BAY 44 | Q 60201-Y 44 |
| BAY 45 | Q 60201-Y 45 |
| BAY 46 | Q 60201-Y 45 |



Maximum ratings ($T_{amb} = 25\text{ °C}$)

| | BAY 44 | BAY 45 | BAY 46 | | |
|---|--------------|--------|---------------|-----|--------------------|
| Reverse voltage | V_R | 50 | 150 | 300 | V |
| Maximum reverse voltage | V_{RM} | 50 | 150 | 300 | V |
| Forward current ($L = 4\text{ mm}$; see diagram) | I_F | | 250 | | mA |
| Maximum forward current ($t = 10\text{ }\mu\text{s}$ see diagram) | i_{FM} | | 30 | | A |
| Junction temperature | T_j | | 150 | | $^{\circ}\text{C}$ |
| Ambient temperature | T_{amb} | | - 55 to + 125 | | $^{\circ}\text{C}$ |
| Total power dissipation ($T_{amb} = 25\text{ }^{\circ}\text{C}$; $L = 4\text{ mm}$) | P_{tot} | | 250 | | mW |
| Thermal resistance ($L = 4\text{ mm}$) ²⁾ | R_{thJamb} | | < 380 | | K/W |

Static characteristics

| | | | | | |
|--|-------|--|---------------|--|---------------|
| Forward voltage ($I_F = 100\text{ mA}$; $T_{amb} = 25\text{ }^{\circ}\text{C}$) | V_F | | 0.97 (< 1.1)* | | V |
| Forward voltage ($I_F = 100\text{ mA}$; $T_{amb} = 100\text{ }^{\circ}\text{C}$) | V_F | | 0.9 | | V |
| Reverse current ($V_R = V_{RM}$; $T_{amb} = 25\text{ }^{\circ}\text{C}$) | I_R | | 0.02 (< 0.2)* | | μA |
| Reverse current ($V_R = V_{RM}$; $T_{amb} = 100\text{ }^{\circ}\text{C}$) | I_R | | 0.4 (< 10) | | μA |

Dynamic characteristics

| | | | | | |
|--|----------|--|-----|--|---------------|
| Capacitance ($V_R = 0\text{ V}$; $f = 1\text{ MHz}$) | C_0 | | 7 | | pf |
| Capacitance ($V_R = 5\text{ V}$; $f = 1\text{ MHz}$) | C_s | | 2.5 | | pf |
| Reverse recovery time when switching from $I_F = 5\text{ mA}$ to $I_R = 2\text{ mA}$ ¹⁾ | t_{rr} | | 4.5 | | μs |
| Detector voltage efficiency ($V_{eff} = 5\text{ V}$; $f = 1\text{ MHz}$; $R_L = 10\text{ k}\Omega$; $C_L = 10\text{ nf}$) | η_v | | 65 | | % |

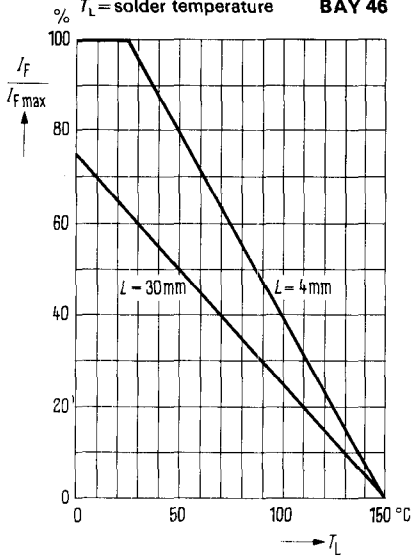
¹⁾ Measured with Tektronix type S plug-in unit * AQL=0.65%

²⁾ These value apply to a case-soldering point clearance of 4 mm

BAY 44, BAY 45, BAY 46

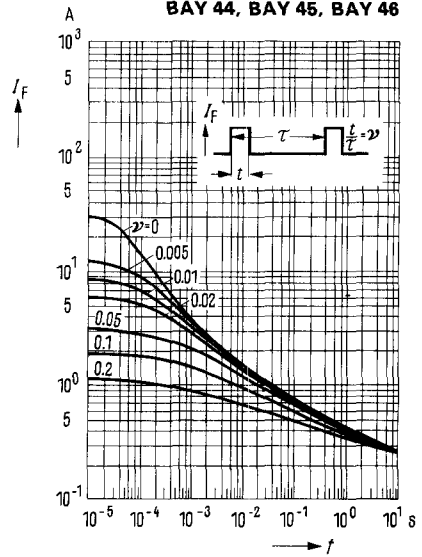
Max. permissible forward current

$I_F / I_{Fmax} = f(T_L)$ BAY 44
 $L_L =$ distance case to solder: BAY 45
 $T_L =$ solder temperature BAY 46



Permissible pulse load $I_F = f(t)$
 $v =$ parameter; $T_{amb} = 25\text{ °C}$

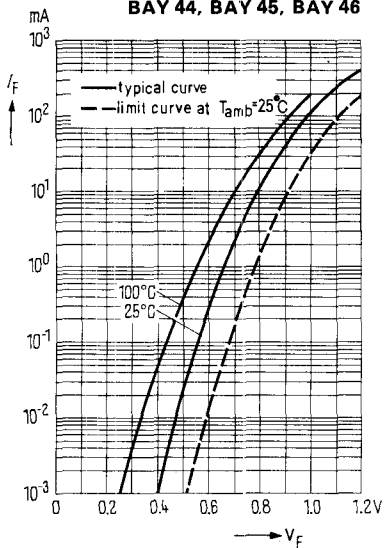
BAY 44, BAY 45, BAY 46



Forward characteristic $I_F = f(V_F)$

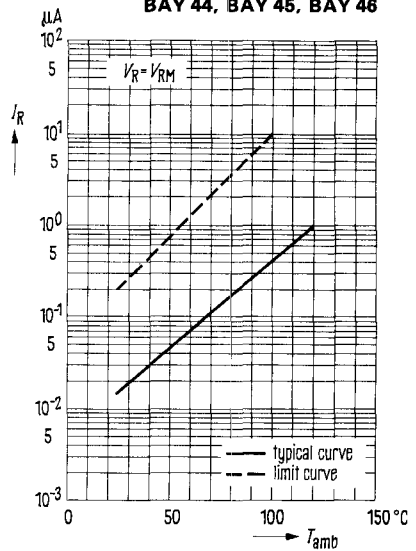
$T_{amb} = 25\text{ °C}$; $T_{amb} = 100\text{ °C}$

BAY 44, BAY 45, BAY 46



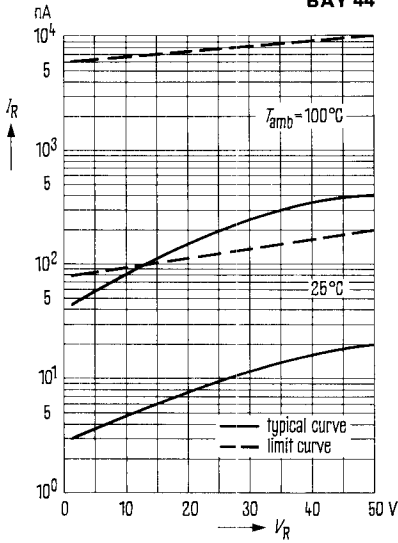
Reverse current $I_R = f(T_{amb})$
at max. permissible reverse voltage

BAY 44, BAY 45, BAY 46



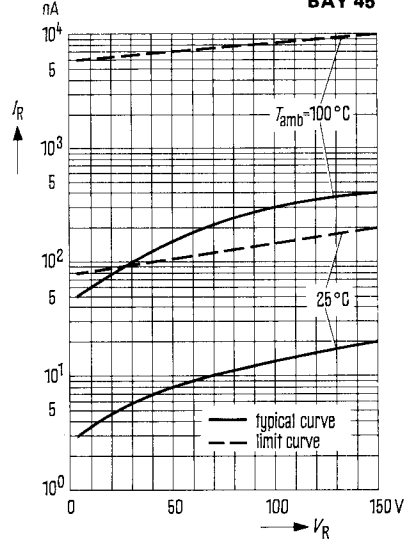
Reverse characteristics $I_R = f(V_R)$
 $T_{amb} = 25\text{ }^\circ\text{C}; T_{amb} = 100\text{ }^\circ\text{C}$

BAY 44



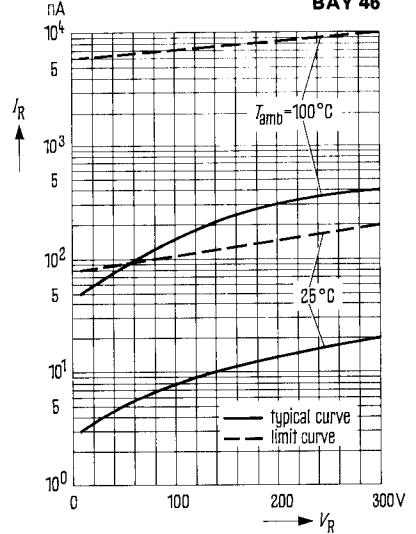
Reverse characteristics $I_R = f(V_R)$
 $T_{amb} = 25\text{ }^\circ\text{C}; T_{amb} = 100\text{ }^\circ\text{C}$

BAY 45



Reverse characteristics $I_R = f(V_R)$
 $T_{amb} = 25\text{ }^\circ\text{C}; T_{amb} = 100\text{ }^\circ\text{C}$

BAY 46



BAY 44, BAY 45, BAY 46

