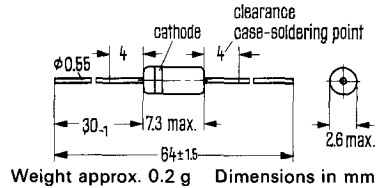


General-purpose silicon diodes

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		°C
Ambient temperature	T_{amb}		- 55 to + 125		°C
Total power dissipation ($T_{amb} = 25\text{ °C}$; $L = 4\text{ mm}$)	P_{tot}		250		mW
Thermal resistance ($L = 4\text{ mm}$) ²⁾	R_{thJamb}		< 380		K/W

Static characteristics

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

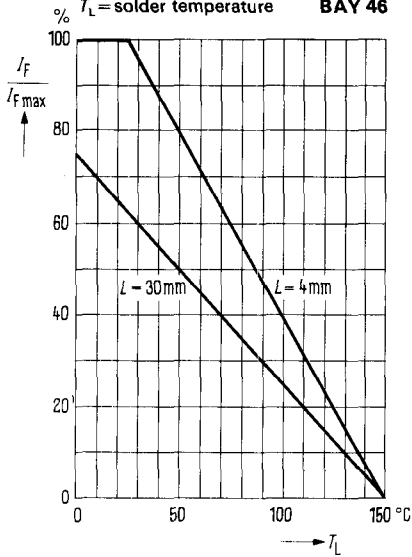
¹⁾ Measured with Tektronix type S plug-in unit * AQL=0.65%

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

BAY 44, BAY 45, BAY 46

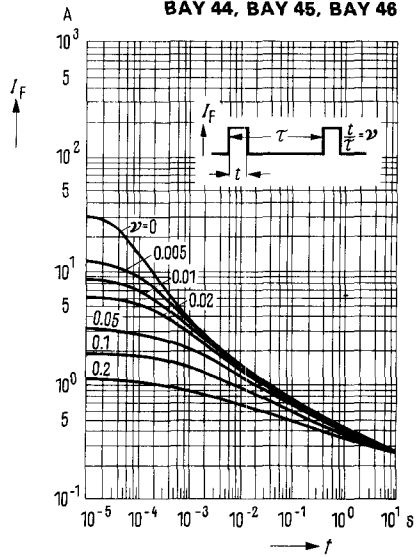
Max. permissible forward current

$I_F / I_{Fmax} = f(T_L)$ 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; $T_{amb} = 25\text{ °C}$

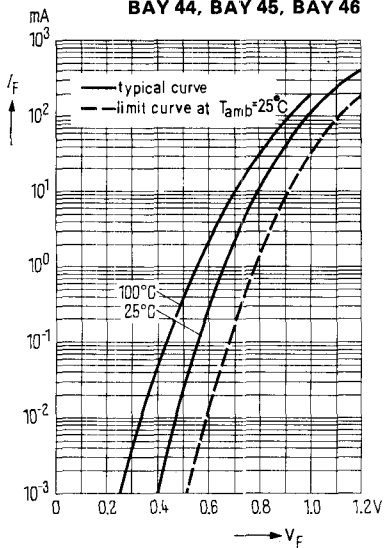
BAY 44, BAY 45, BAY 46



Forward characteristic $I_F = f(V_F)$

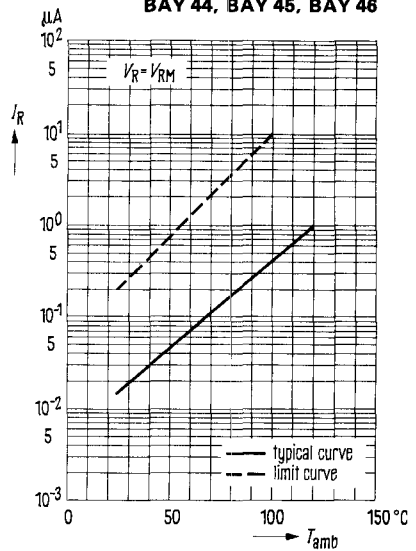
$T_{amb} = 25\text{ °C}$; $T_{amb} = 100\text{ °C}$

BAY 44, BAY 45, BAY 46



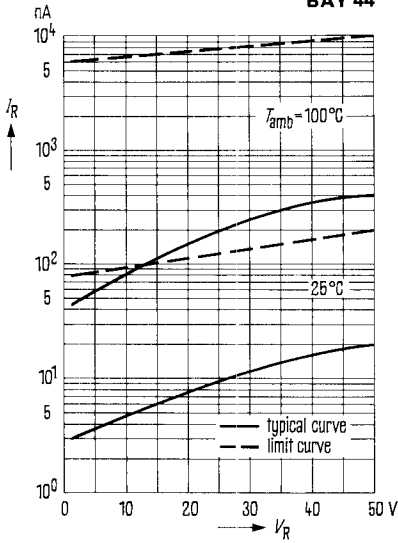
Reverse current $I_R = f(T_{amb})$
at max. permissible reverse voltage

BAY 44, BAY 45, BAY 46



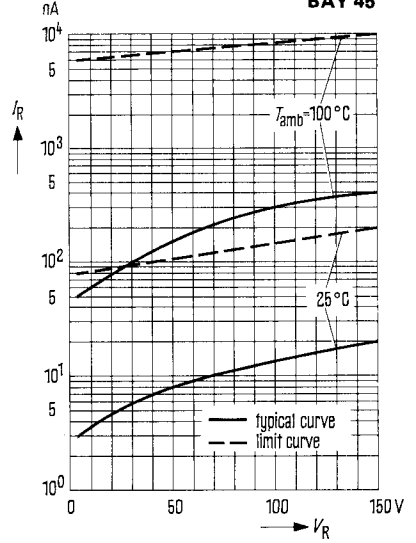
Reverse characteristics $I_R = f(V_R)$
 $T_{amb} = 25\text{ }^\circ\text{C}; T_{amb} = 100\text{ }^\circ\text{C}$

BAY 44



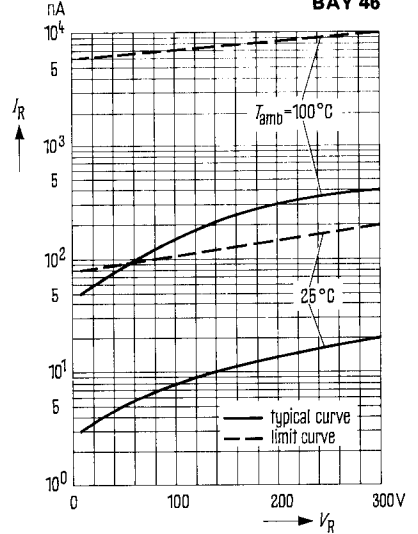
Reverse characteristics $I_R = f(V_R)$
 $T_{amb} = 25\text{ }^\circ\text{C}; T_{amb} = 100\text{ }^\circ\text{C}$

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

