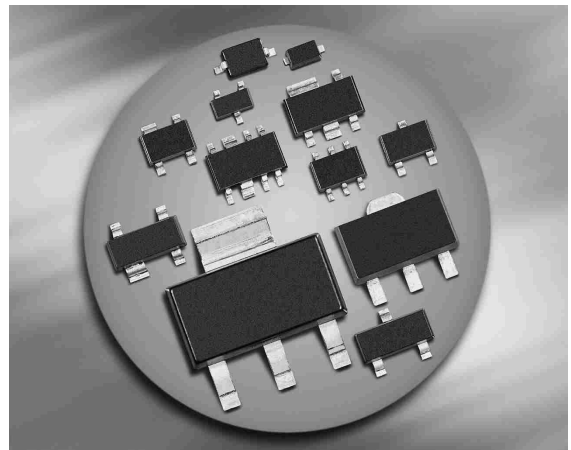
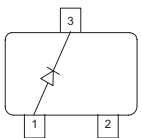
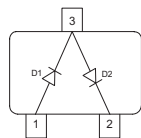
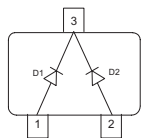
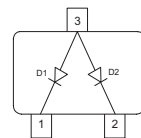


**Silicon Schottky Diodes**

- For low-loss, fast-recovery, meter protection, bias isolation and clamping application
- Guard ring protected
- Low forward voltage


**BAT54**

**BAT54-04**

**BAT54-05**

**BAT54-06**


Type	Package	Configuration	$L_S$ (nH)	Marking
BAT54*	SOT23	single	1.8	T
BAT54-04*	SOT23	series	1.8	TS
BAT54-05*	SOT23	common cathode	1.8	TC
BAT54-06*	SOT23	common anode	1.8	TA

\* Preliminary data

**Maximum Ratings** at  $T_A = 25^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	30	V
Forward current	$I_F$	200	mA
Non-repetitive peak surge forward current ( $t \leq 10$ ms)	$I_{FSM}$	600	
Repetitive peak forward current <sup>1)</sup> $t_p \leq 1$ s, $\delta = 0.5$	$I_{FRM}$	300	mA
Total power dissipation BAT54, $T_S \leq 93^\circ\text{C}$ BAT54-04, $T_S \leq 70^\circ\text{C}$ BAT54-05, $T_S \leq 47^\circ\text{C}$ BAT54-06, $T_S \leq 70^\circ\text{C}$	$P_{tot}$	230 230 230 230	mW
Junction temperature	$T_j$	150	
Storage temperature	$T_{stg}$	-65 ... 150	

**Thermal Resistance**

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>2)</sup>	$R_{thJS}$		K/W
BAT54		≤ 245	
BAT54-04		≤ 345	
BAT54-05		≤ 445	
BAT54-06		≤ 345	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

**DC Characteristics**

Breakdown voltage <sup>3)</sup> $I_{(BR)} = 10 \mu\text{A}$	$V_{(BR)}$	30	-	-	V
Reverse current <sup>3)</sup> $V_R = 25 \text{ V}$	$I_R$	-	-	2	$\mu\text{A}$
Forward voltage <sup>3)</sup> $I_F = 0.1 \text{ mA}$ $I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$ $I_F = 30 \text{ mA}$ $I_F = 100 \text{ mA}$	$V_F$	-	-	240 320 400 500 800	mV

**AC Characteristics**

Diode capacitance $V_R = 1 \text{ V}, f = 1 \text{ MHz}$	$C_T$	-	-	10	pF
Reverse recovery time $I_F = 10 \text{ mA}, I_R = 10 \text{ mA}, \text{measured } I_R = 1 \text{ mA}, R_L = 100 \Omega$	$t_{rr}$	-	-	5	ns

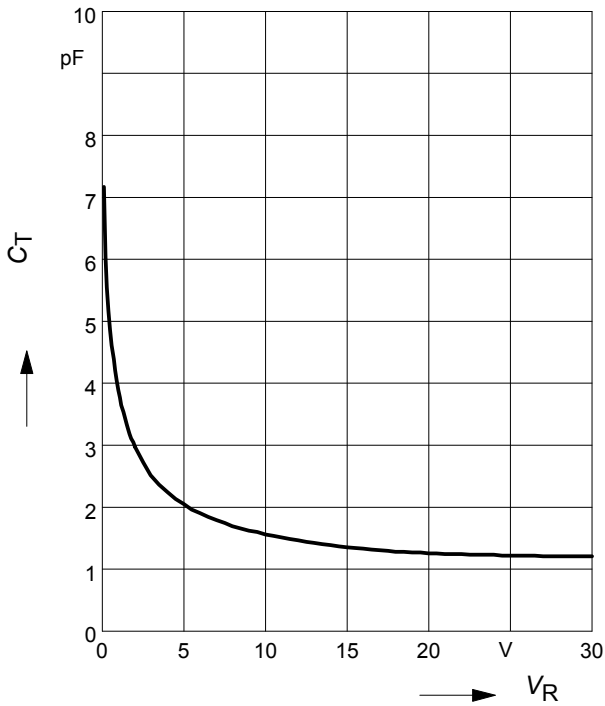
<sup>1</sup>Device mounted on epoxy PCB 40 x 40 x 1.5 mm / 6 cm<sup>2</sup> Cu

<sup>2</sup>For calculation of  $R_{thJA}$  please refer to Application Note Thermal Resistance

<sup>3</sup>Pulsed test:  $t_p = 300 \mu\text{s}; D = 0.01$

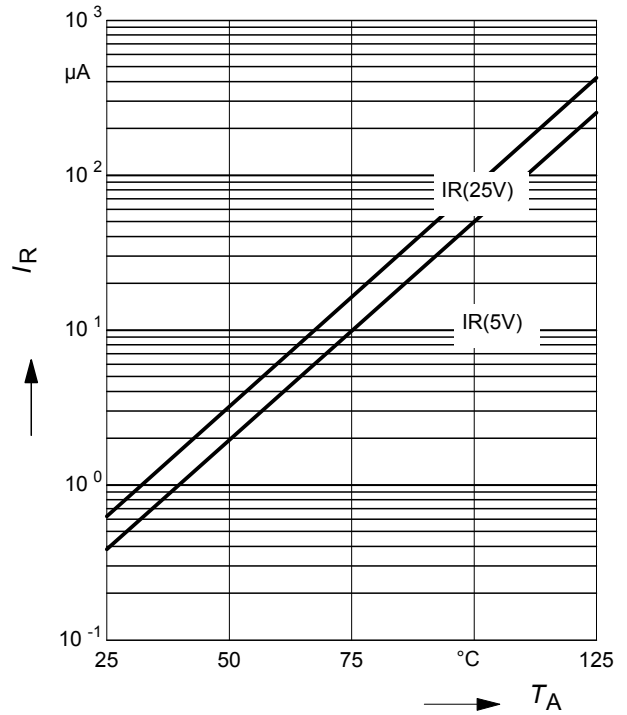
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



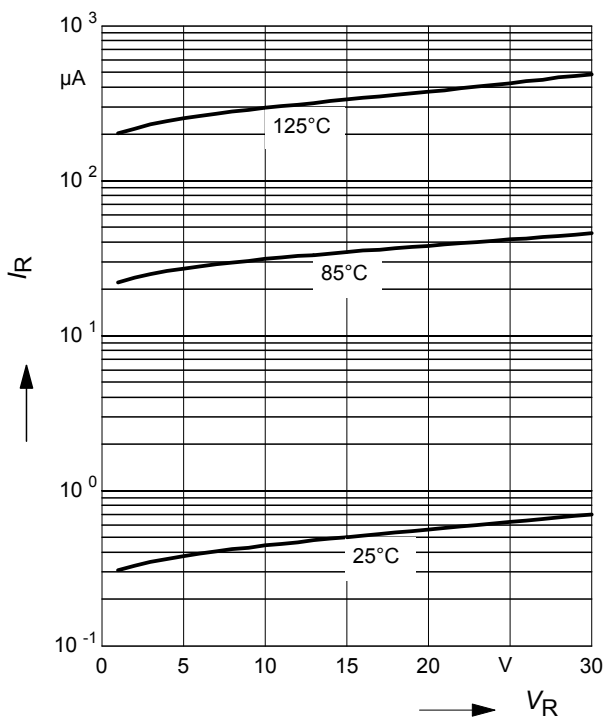
**Reverse current  $I_R = f(T_A)$**

$V_R = \text{Parameter}$



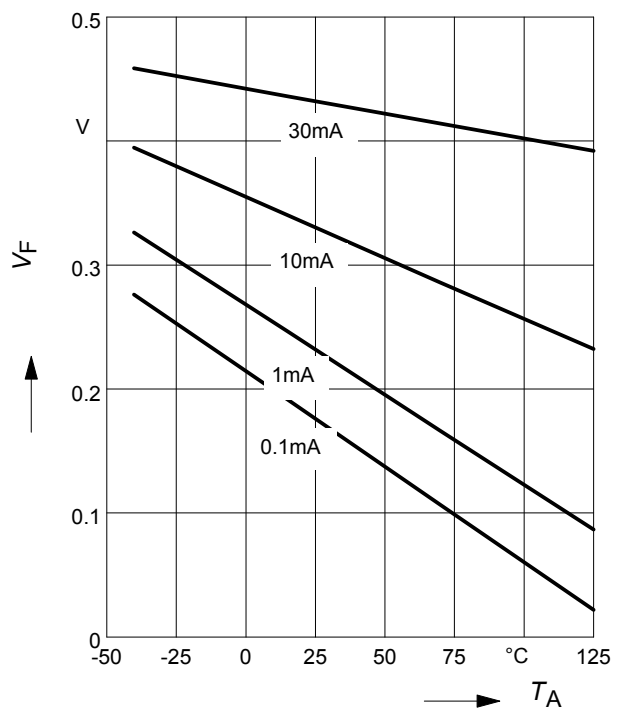
**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$



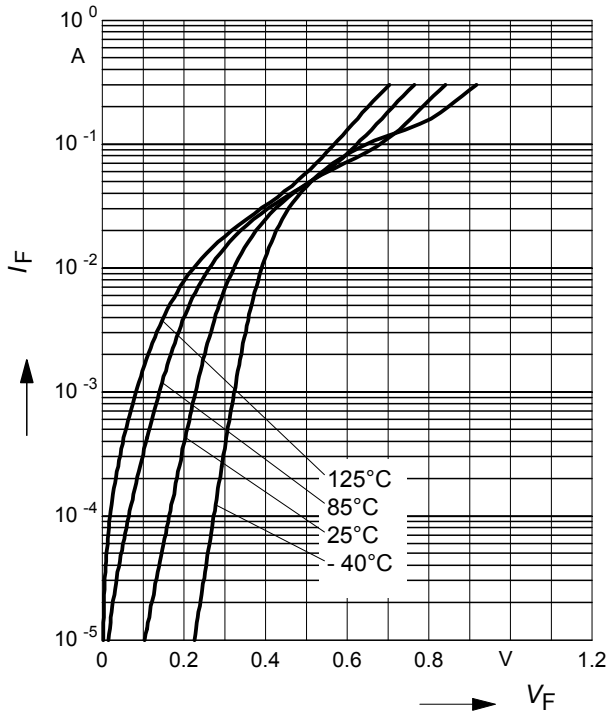
**Forward Voltage  $V_F = f(T_A)$**

$I_F = \text{Parameter}$



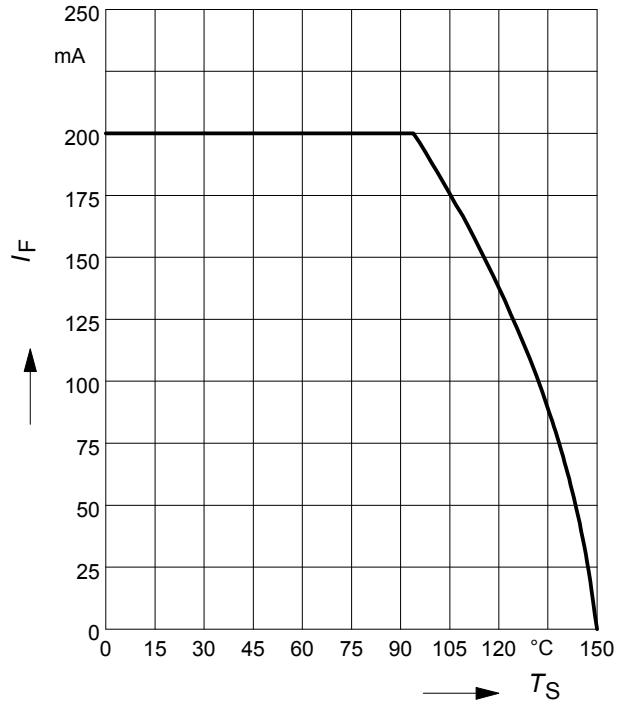
**Forward current  $I_F = f(V_F)$**

$T_A =$  Parameter



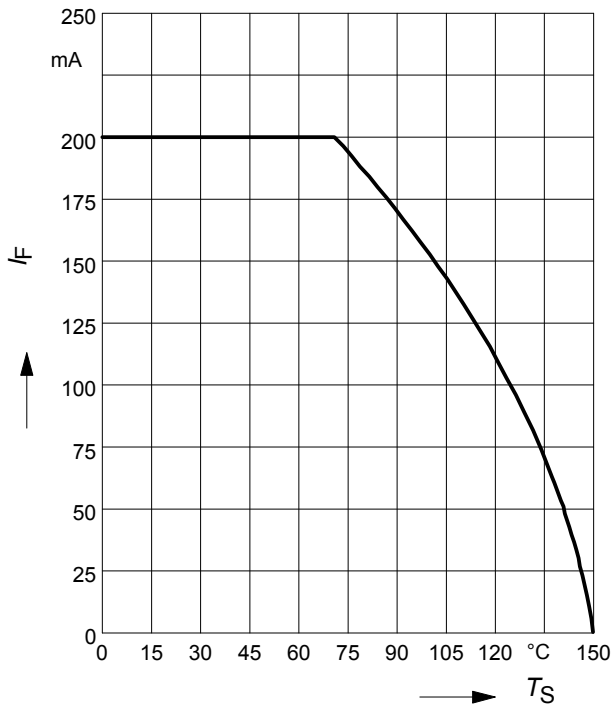
**Forward current  $I_F = f(T_S)$**

BAT54



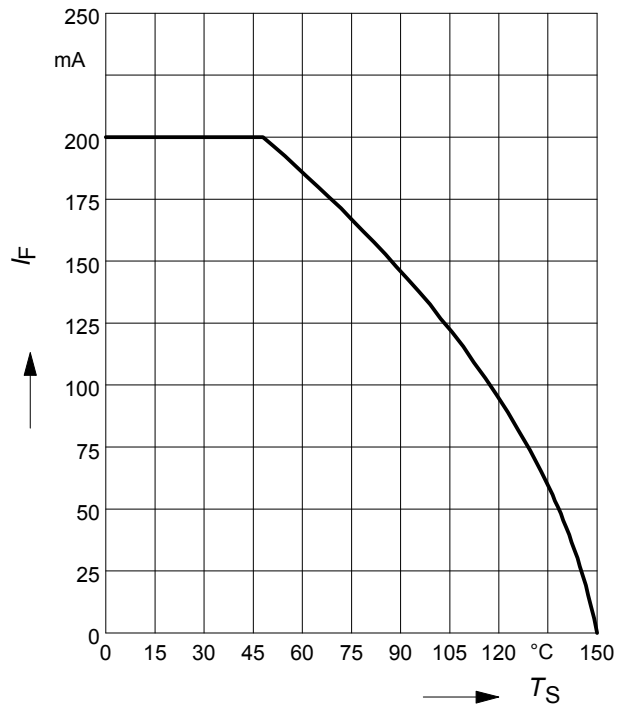
**Forward current  $I_F = f(T_S)$**

BAT54-04, BAT54-06



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

BAT54-05



Published by Infineon Technologies AG,  
St.-Martin-Strasse 53,  
81669 München  
© Infineon Technologies AG 2004.  
All Rights Reserved.

### **Attention please!**

The information herein is given to describe certain components and shall not be considered as a guarantee of characteristics.

Terms of delivery and rights to technical change reserved.

We hereby disclaim any and all warranties, including but not limited to warranties of non-infringement, regarding circuits, descriptions and charts stated herein.

### **Information**

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office ([www.infineon.com](http://www.infineon.com)).

### **Warnings**

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office.

Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.