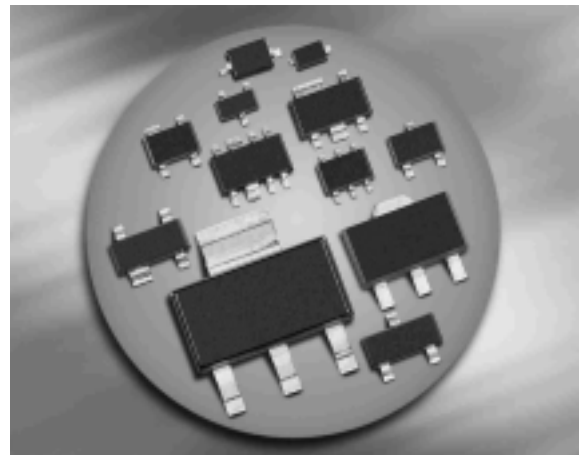
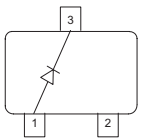
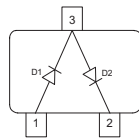
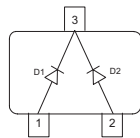
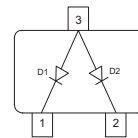


Silicon Schottky Diodes

- For low-loss, fast-recovery, meter protection, bias isolation and clamping application
- Integrated diffused guard ring
- Low forward voltage
- Improved operating temperature range due to extra-low thermal resistance (see attached Forward current curves)
- High volume packing size:
B5000: 9 x 10k reels, B5003: 10 x 3k reels
- Not for automotive applications*


BAT64

BAT64-04

BAT64-05

BAT64-06


Type	Package	Configuration	L_S (nH)	Marking
BAT64	SOT23	single	1.8	63s
BAT64-04	SOT23	series	1.8	64s
BAT64-05	SOT23	common cathode	1.8	65s
BAT64-06	SOT23	common anode	1.8	66s

* Automotive qualification ongoing

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	40	V
Forward current	I_F	250	mA
Non-repetitive peak surge forward current ($t \leq 10\text{ms}$)	I_{FSM}	800	
Average rectified forward current (50/60Hz, sinus)	I_{FAV}	120	
Total power dissipation BAT64, $T_s \leq 122^\circ\text{C}$ BAT64-04, BAT64-06, $T_s \leq 115^\circ\text{C}$ BAT64-05, $T_s \leq 109^\circ\text{C}$	P_{tot}	250 250 250	mW
Junction temperature	T_j	150	
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾ BAT64 BAT64-04, BAT64-06 BAT64-05	R_{thJS}	≤ 110 ≤ 140 ≤ 165	K/W

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Breakdown voltage $I_{(BR)} = 10 \mu\text{A}$	$V_{(BR)}$	40	-	-	V
Reverse current $V_R = 30 \text{V}$ $V_R = 30 \text{V}, T_A = 85^\circ\text{C}$	I_R	- - -	- - -	- 2 200	μA
Forward voltage $I_F = 1 \text{mA}$ $I_F = 10 \text{mA}$ $I_F = 30 \text{mA}$ $I_F = 100 \text{mA}$	V_F	- 270 310 370 500	- 320 385 440 570	- 350 430 520 750	mV

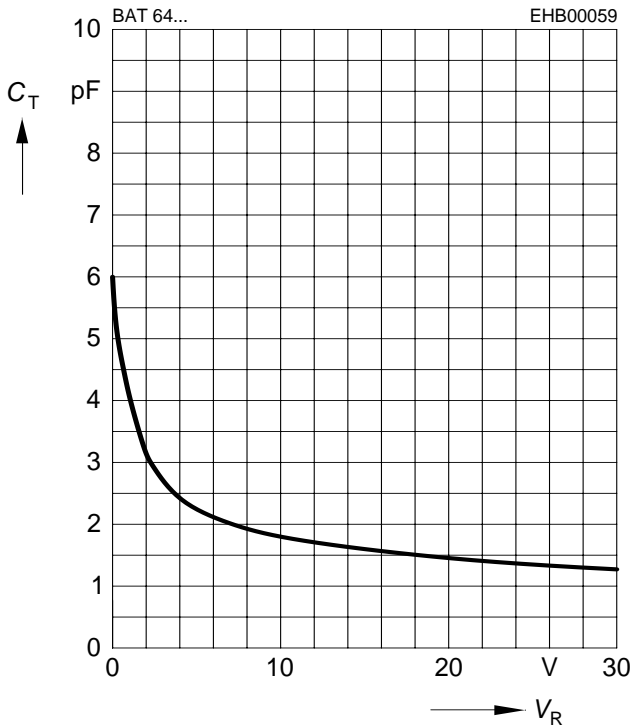
¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics					
Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$	C_T	-	4	6	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

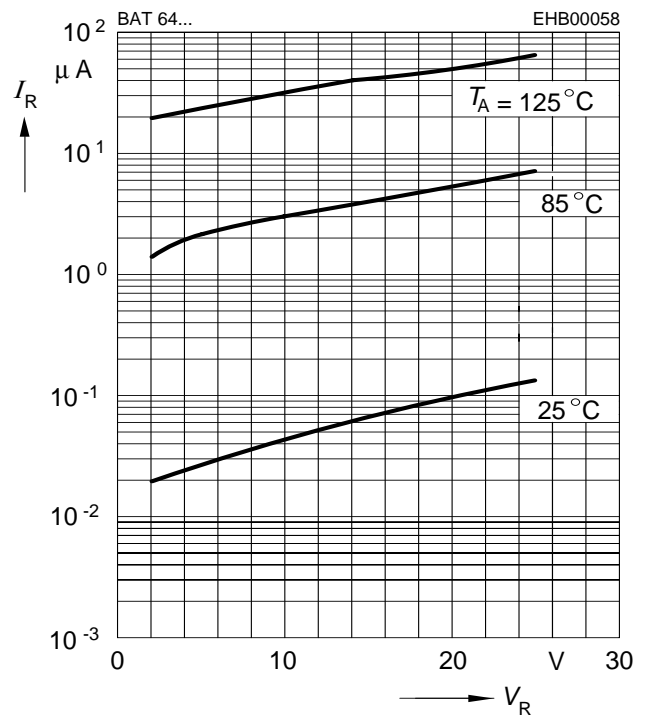
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$

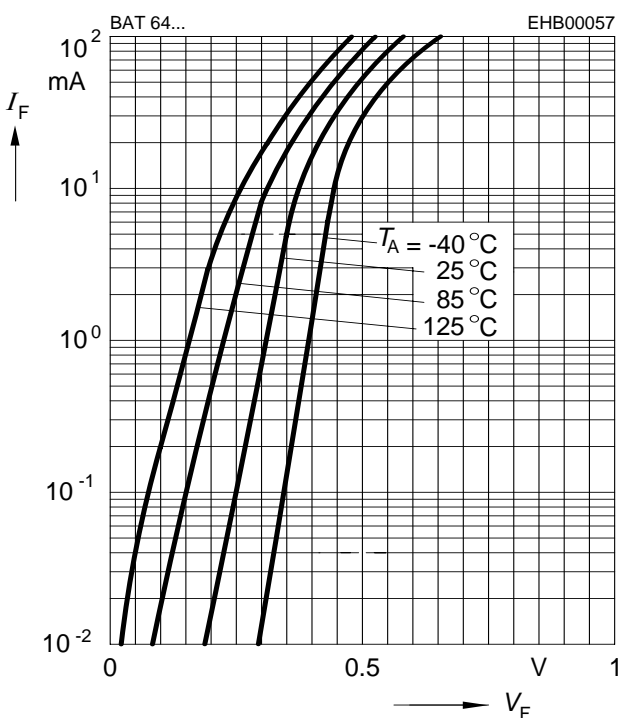


Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



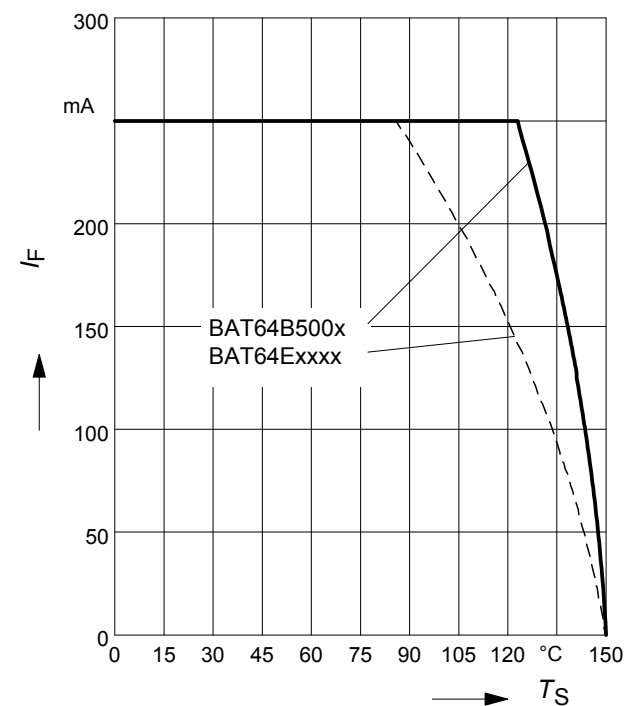
Forward current $I_F = f(V_F)$



Forward current $I_F = f(T_S)$

BAT64B500x

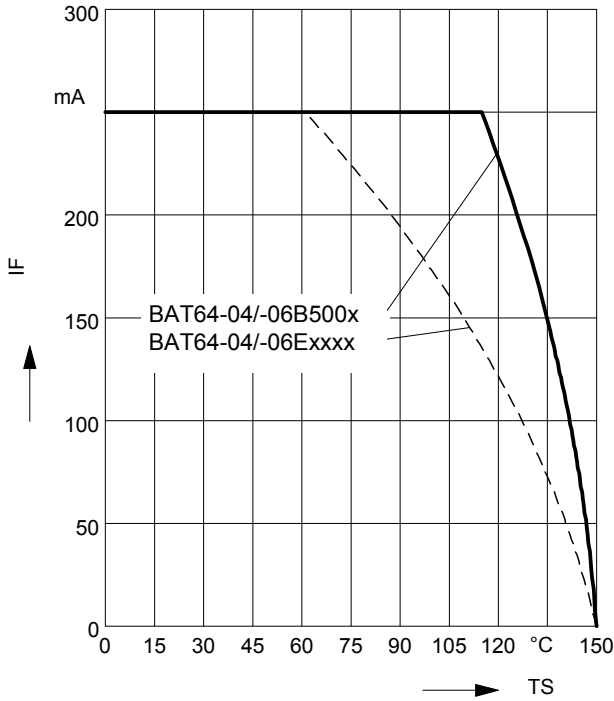
BAT64Exxxx (e.g. E6327)



Forward current $I_F = f(T_S)$

BAT64-04 /-06B500x

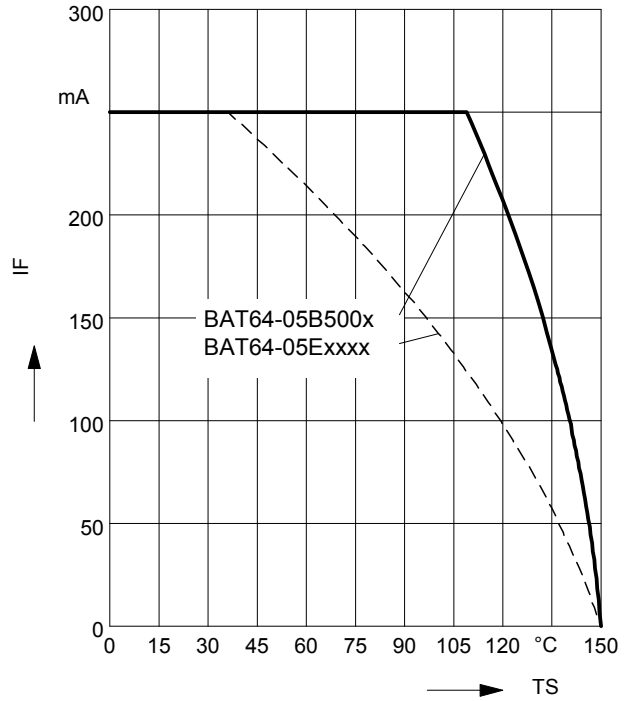
BAT64-04/-06Exxxx (e.g. E6327)



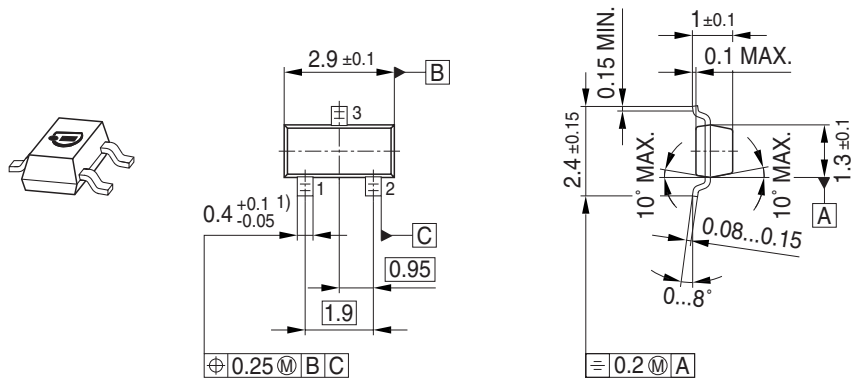
Forward current $I_F = f(T_S)$

BAT64-05B500x

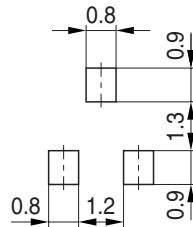
BAT64-05Exxxx (e.g. E6327)



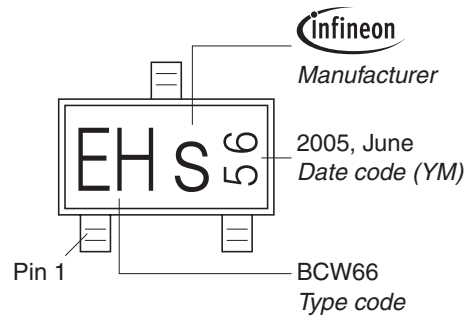
Package Outline



Foot Print

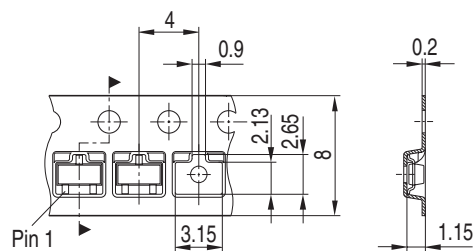


Marking Layout (Example)



Standard Packing

Reel \varnothing 180 mm = 3.000 Pieces/Reel
 Reel \varnothing 330 mm = 10.000 Pieces/Reel



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