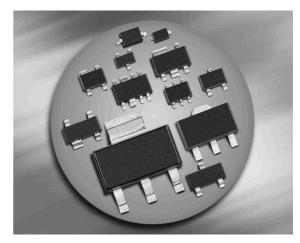


Silicon Schottky Diodes

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



BAT64

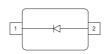
BAT64-02V BAT64-02W

BAT64-04 BAT64-04W

BAT64-05 BAT64-05W

BAT64-06 BAT64-06W











BAT64-07



ESD: Electrostatic discharge sensitive device, observe handling precaution!

Туре	Package	Configuration	L _S (nH)	Marking
BAT64	SOT23	single	1.8	63s
BAT64-02V*	SC79	single	0.6	t
BAT64-02W	SCD80	single	0.6	64
BAT64-04	SOT 23	series	1.8	64s
BAT64-04W	SOT323	series	1.4	64s
BAT64-05	SOT23	common cathode	1.8	65s
BAT64-05W	SOT323	common cathode	1.4	65s
BAT64-06	SOT23	common anode	1.8	66s
BAT64-06W	SOT323	common anode	1.4	66s
BAT64-07	SOT143	parallel pair	2	67s

^{*} Preliminary data



Maximum Ratings at $T_A = 25^{\circ}$ 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	I _{FSM}	800	
(<i>t</i> ≤ 10ms)			
Average forward current (50/60Hz, sinus)	I _{FAV}	120	
Total power dissipation	P _{tot}		mW
BAT64, <i>T</i> _S ≤ 86°C		250	
BAT64-02V, BAT64-02W, <i>T</i> _S ≤ 121°C		250	
BAT64-04, BAT64-06, BAT64-07, <i>T</i> _S ≤ 61°C		250	
BAT64-04W, BAT64-06W, <i>T</i> _S ≤ 111°C		250	
BAT64-05, <i>T</i> _S ≤ 36°C		250	
BAT64-05W, $T_{S} \le 104^{\circ}C$		250	
Junction temperature	$T_{\rm j}$	150	°C
Storage temperature	$T_{ m stg}$	-55 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾	R _{thJS}		K/W
BAT64		≤ 255	
BAT64-02V, BAT64-02W		≤ 115	
BAT64-04, BAT64-06, BAT64-07		≤ 355	
BAT64-04W, BAT64-06W		≤ 155	
BAT64-05		≤ 455	
BAT64-05W		≤ 185	

 $^{^{\}rm 1}{\rm For}$ calculation of $R_{\rm thJA}$ please refer to Application Note Thermal Resistance



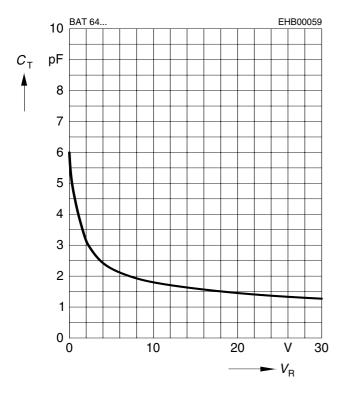
Electrical Characteristics at $T_A = 25$ °C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	1
DC Characteristics			•	•	•
Breakdown voltage	V _(BR)	40	-	-	V
$I_{(BR)} = 10 \mu A$					
Reverse current	I _R				μA
V _R = 30 V		-	-	2	
V_{R} = 30 V, T_{A} = 85 °C		-	-	200	
Forward voltage	V _F				mV
/ _F = 1 mA		270	320	350	
/ _F = 10 mA		310	385	430	
I _F = 30 mA		370	440	520	
I _F = 100 mA		500	570	750	
AC Characteristics					
Diode capacitance	C _T	-	4	6	pF
$V_{R} = 1 \text{ V}, f = 1 \text{ MHz}$					
Reverse recovery time	t _{rr}	-	-	5	ns
$I_{\rm F}$ = 10 mA, $I_{\rm R}$ = 10 mA, measured $I_{\rm R}$ = 1 mA ,					
R_{L} = 100 Ω					



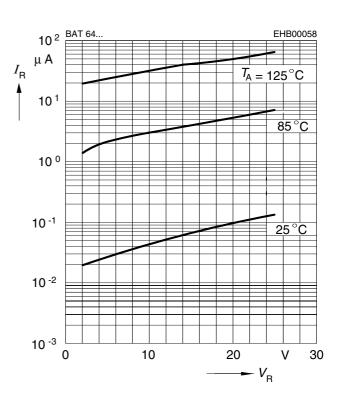
Diode capacitance $C_T = f(V_R)$

f = 1MHz



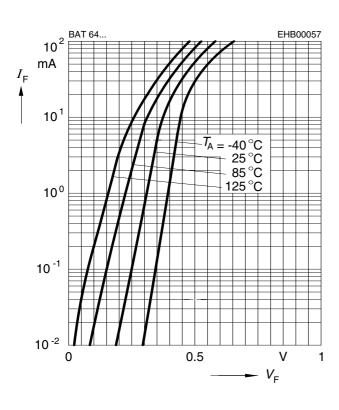
Reverse current $I_R = f(V_R)$

 T_A = Parameter



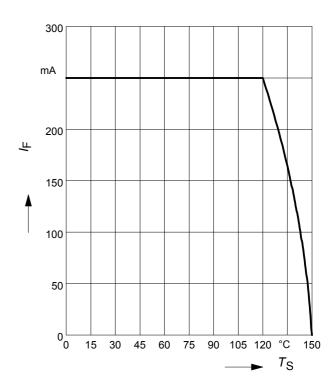
Forward current $I_F = f(V_F)$

 T_A = Parameter



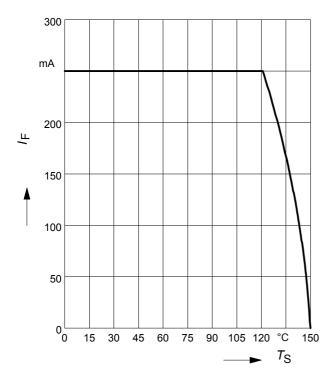
Forward current $I_F = f(T_S)$

BAT64W

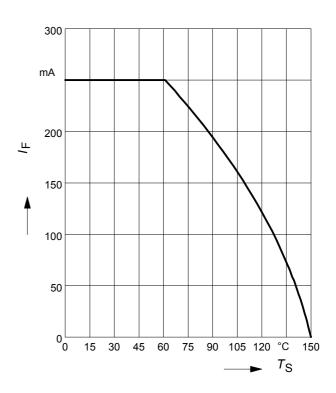




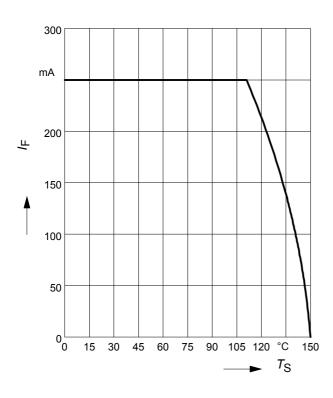
Forward current $I_F = f(T_S)$ BAT64-02V, BAT64-02W



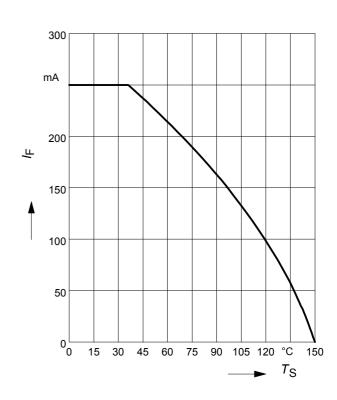
Forward current $I_F = f(T_S)$ BAT64-04, BAT64-06, BAT64-07



Forward current $I_F = f(T_S)$ BAT64-04W, BAT64-06W

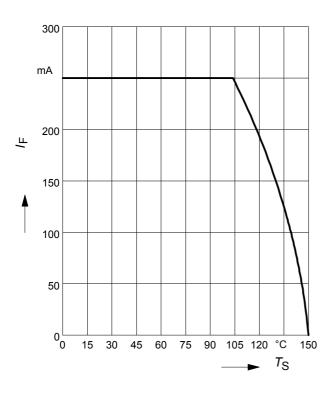


Forward current $I_F = f(T_S)$ BAT64-05

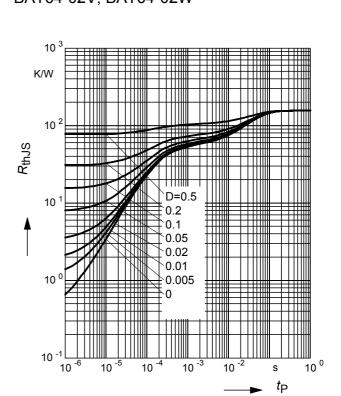




Forward current $I_F = f(T_S)$ BAT64-05W

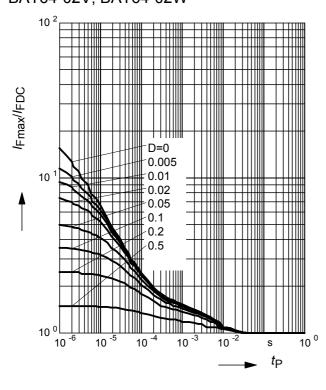


Permissible Puls Load R_{thJS} = $f(t_p)$ BAT64-02V, BAT64-02W



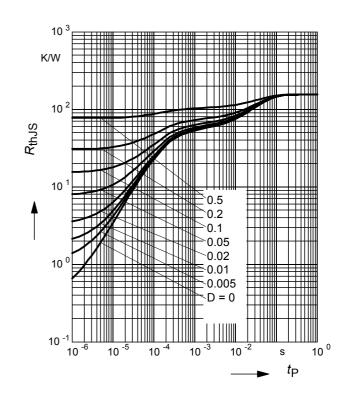
Permissible Pulse Load

 $I_{Fmax}/I_{FDC} = f(t_p)$ BAT64-02V, BAT64-02W



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

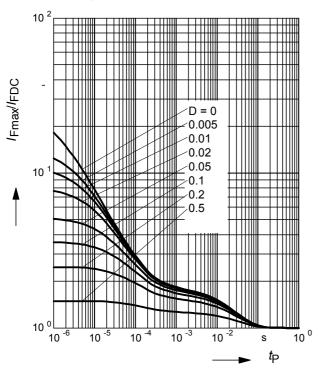
BAT64-04W, BAT64-06W





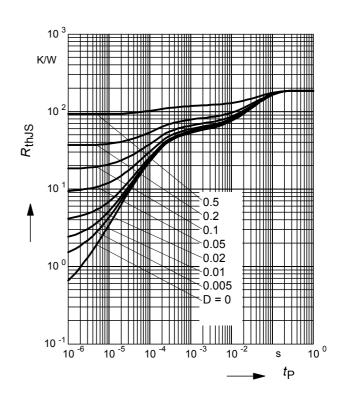
Permissible Pulse Load

 $I_{\text{Fmax}}/I_{\text{FDC}} = f(t_{\text{p}})$ BAT64-04W, BAT64-06W



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

BAT64-05W



Permissible Pulse Load

 $I_{\text{Fmax}}/I_{\text{FDC}} = f(t_{\text{p}})$ BAT64-05W

