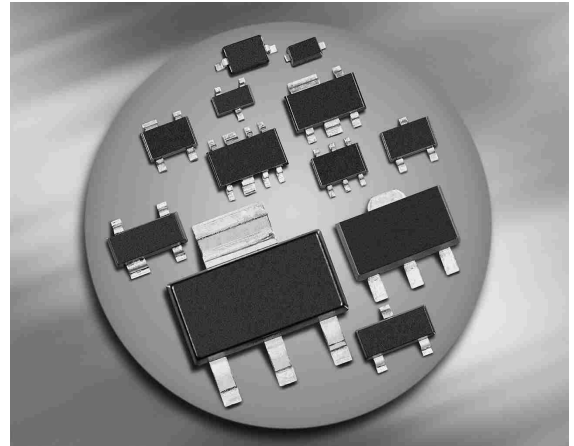
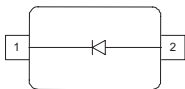


Silicon Schottky Diode

- Medium current Schottky rectifier diode
- For low-loss, fast-recovery, meter protection, bias isolation and clamping applications
- Miniature plastic package for surface mounting (SMD)



BAT165



ESD: Electrostatic discharge sensitive device, observe handling precaution!

Type	Package	Configuration	Marking
BAT165	SOD323	single	C/White

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	750	mA
Surge forward current, ($t \leq 10\text{ms}$)	I_{FSM}	2.5	A
Average forward current (50/60Hz, sinus)	I_{FAV}	500	mA
Total power dissipation $T_S \leq 66^\circ\text{C}$	P_{tot}	600	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾	R_{thJS}	≤ 140	K/W

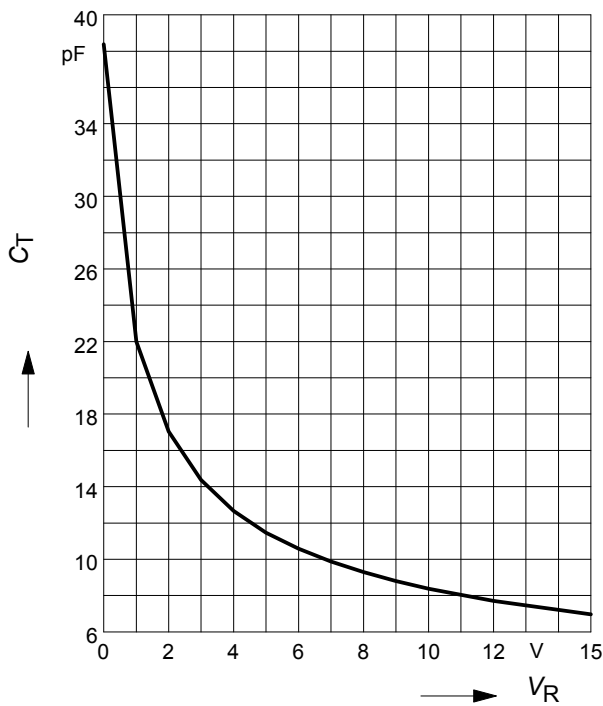
¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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

Electrical Characteristics at $T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise specified					
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current	I_R				μA
$V_R = 30\text{ V}$		-	-	50	
$V_R = 30\text{ V}, T_A = 65\text{ }^{\circ}\text{C}$		-	-	900	
Forward voltage	V_F				V
$I_F = 10\text{ mA}$		-	0.305	0.4	
$I_F = 100\text{ mA}$		-	0.38	-	
$I_F = 250\text{ mA}$		-	0.44	0.7	
$I_F = 750\text{ mA}$		-	0.58	-	
AC Characteristics					
Diode capacitance	C_T	-	8.4	12	pF
$V_R = 10\text{ V}, f = 1\text{ MHz}$					

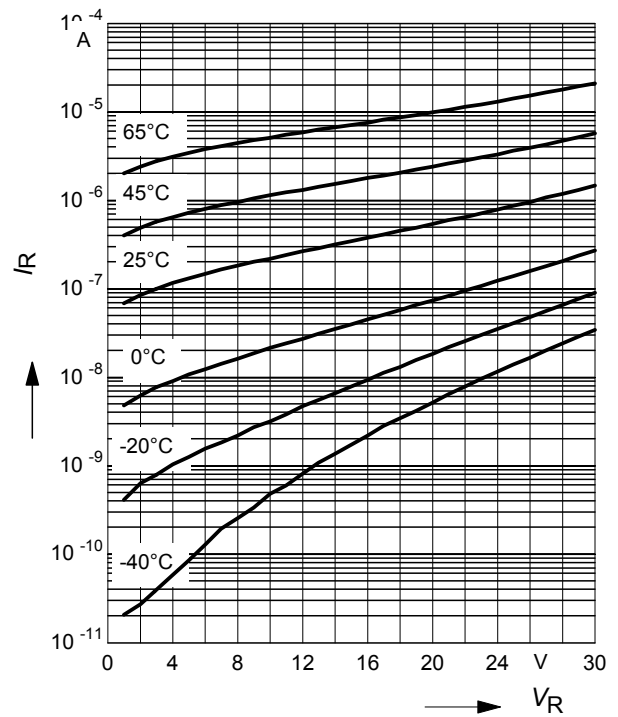
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



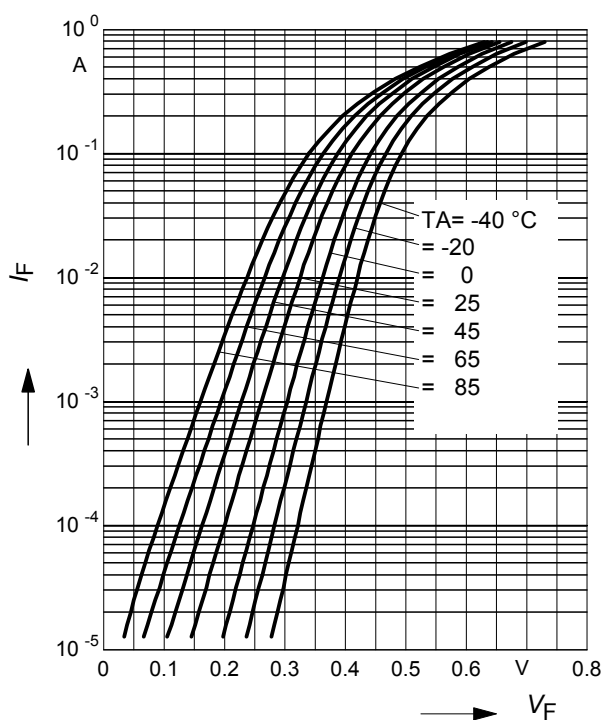
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$

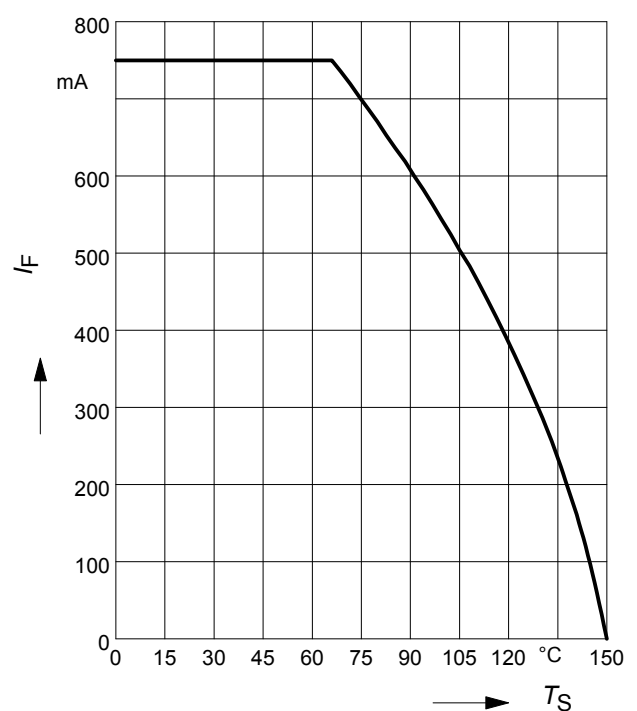


Forward current $I_F = f(V_F)$

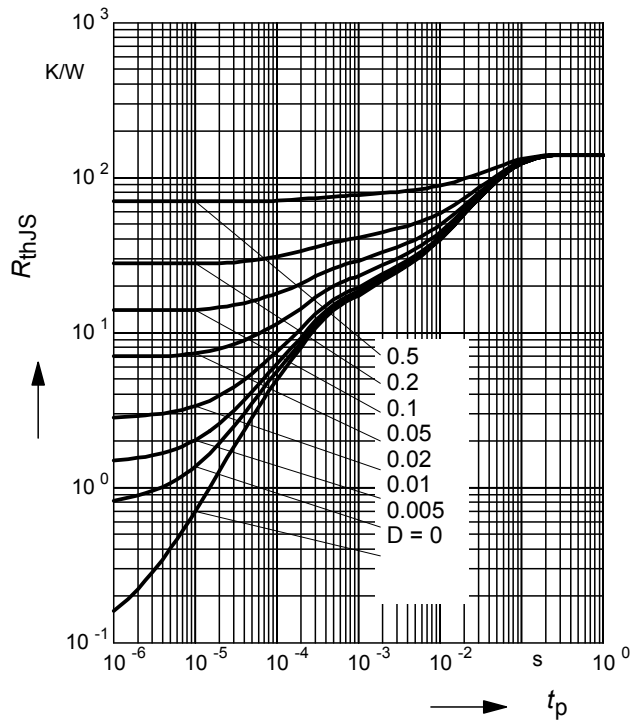
$T_A = \text{Parameter}$



Forward current $I_F = f(T_S)$



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



Permissible Pulse Load

$$I_{Fmax}/I_{FDC} = f(t_p)$$

