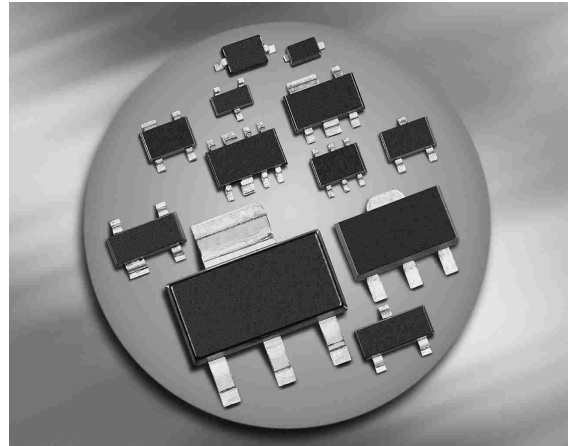
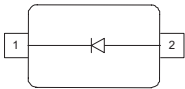


### Silicon Schottky Diode

- 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	°C
Storage temperature	$T_{stg}$	-65 ... 150	

### Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup>	$R_{thJS}$	$\leq 140$	K/W

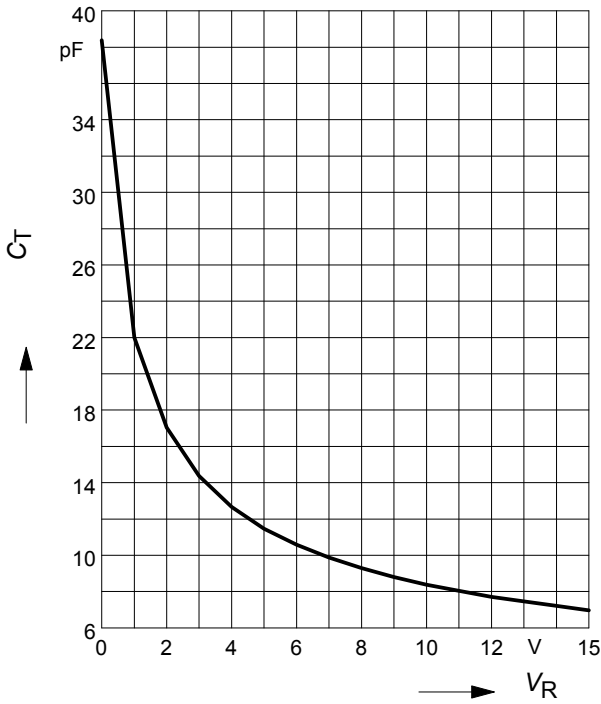
<sup>1</sup>For calculation of  $R_{thJA}$  please refer to Application Note Thermal Resistance

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

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

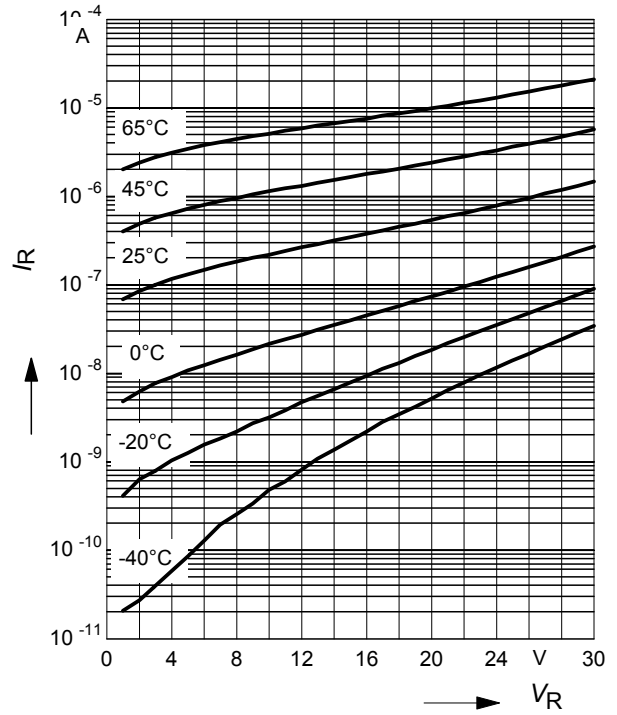
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



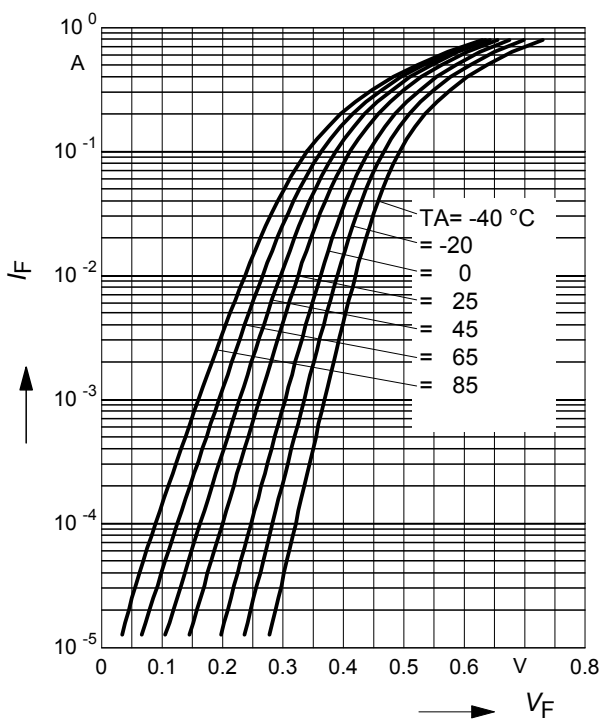
**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$

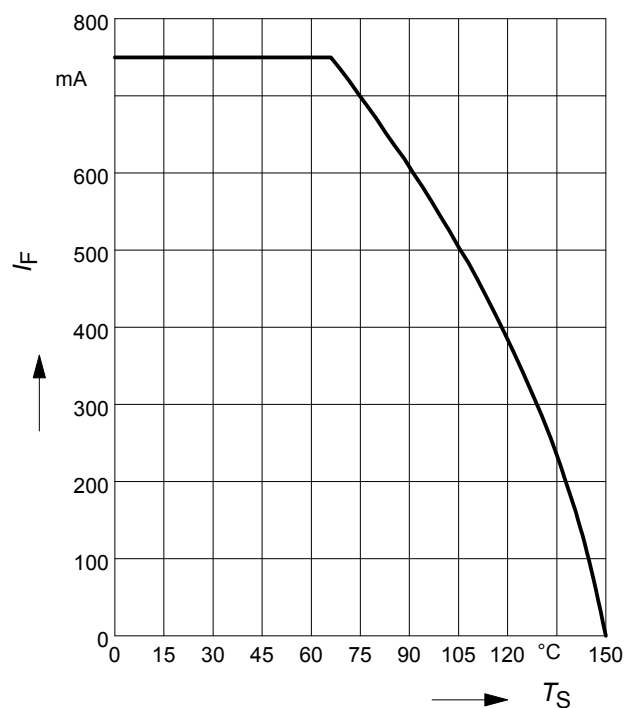


**Forward current  $I_F = f(V_F)$**

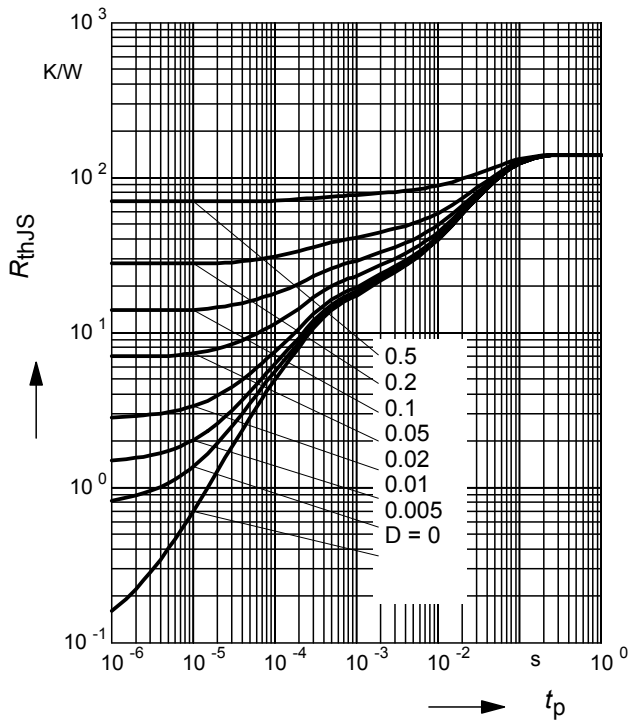
$T_A = \text{Parameter}$



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

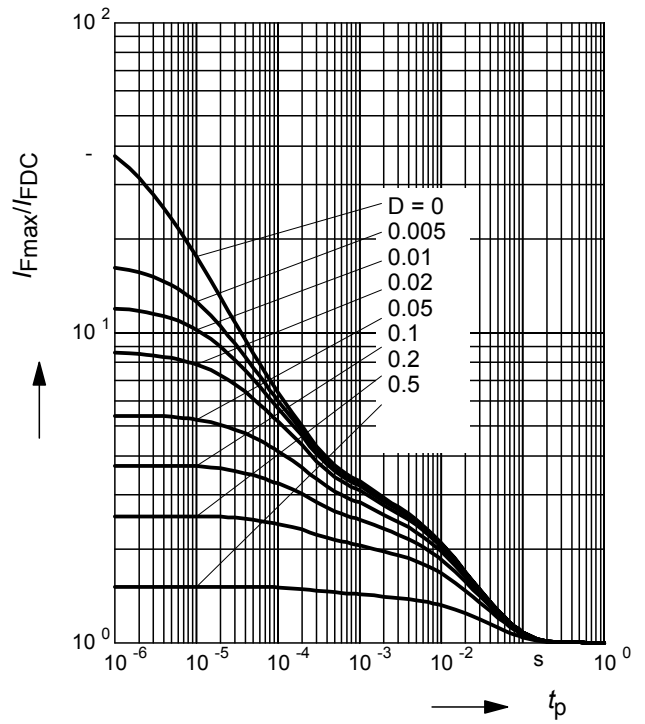


Permissible Puls Load  $R_{thJS} = f(t_p)$



Permissible Pulse Load

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





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