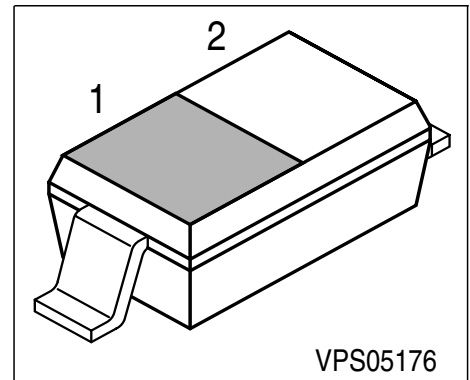


Silicon Schottky Diode

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



ESD: Electrostatic discharge sensitive device, observe handling precaution!

Type	Marking	Pin Configuration		Package
BAT 165	White/C	1 = C	2 = A	SOD-323

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	40	V
Forward current	I_F	750	mA
Average forward current (50/60Hz, sinus)	I_{FAV}	500	
Surge forward current ($t < 10\text{ms}$)	I_{FSM}	2.5	A
Total power dissipation, $T_S = 66^\circ\text{C}$	P_{tot}	600	mW
Junction temperature	T_j	150	
Storage temperature	T_{stg}	-65 ... 150	

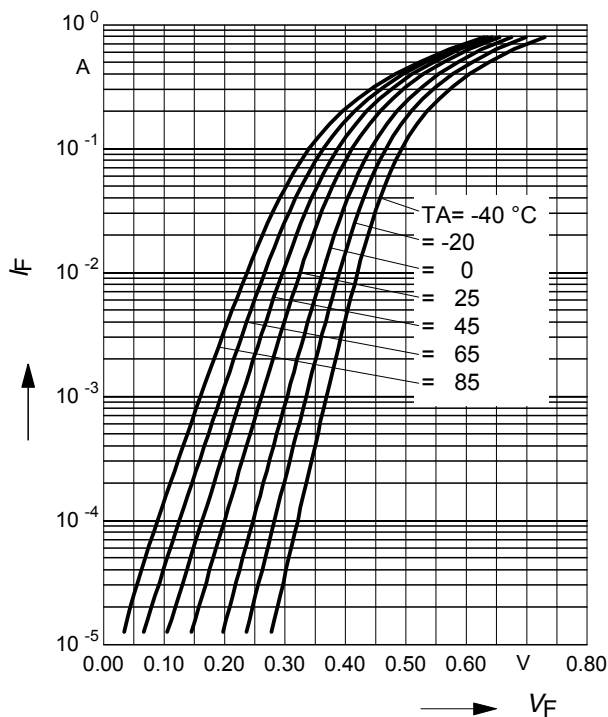
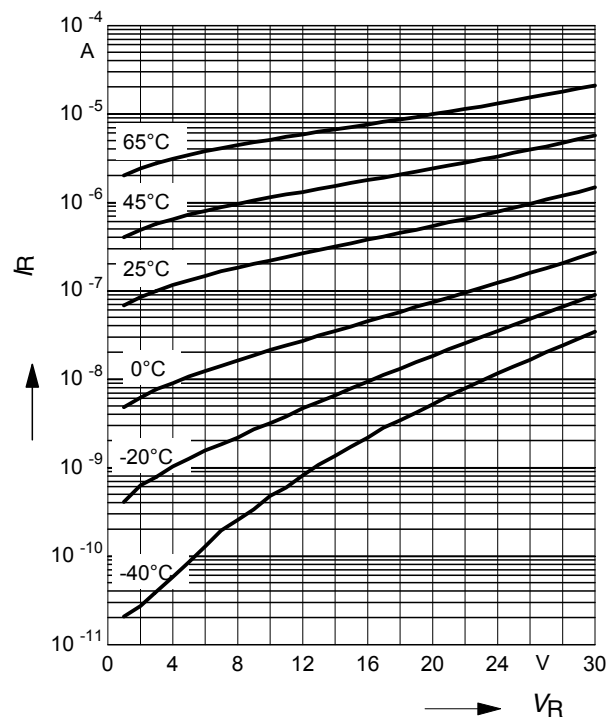
Maximum Ratings

Junction - ambient ¹⁾	R_{thJA}	≤ 275	K/W
Junction - soldering point	R_{thJS}	≤ 140	

1) Package mounted on epoxy pcb 40mm x 40mm x 1.5mm / 0.5cm² Cu

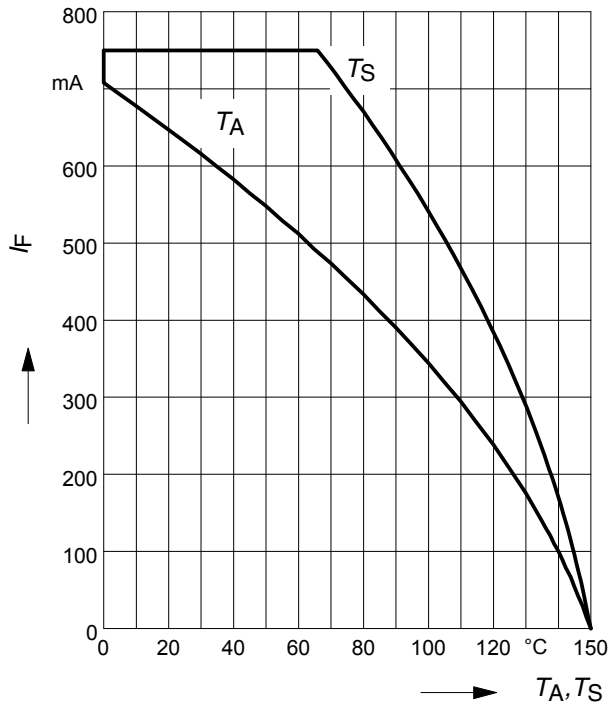
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit	
		min.	typ.	max.		
Characteristics						
Reverse current $V_R = 30\text{ V}$	I_R	-	-	50	μA	
Reverse current $V_R = 30\text{ V}, T_A = 65\text{ }^{\circ}\text{C}$	I_R	-	-	900		
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	
AC characteristics						
Diode capacitance $V_R = 10\text{ V}, f = 1\text{ MHz}$	C_T	-	8.4	12		pF

Forward current $I_F = f(V_F)$
 $T_A = \text{parameter}$

Reverse current $I_R = f(V_R)$
 $T_A = \text{Parameter}$


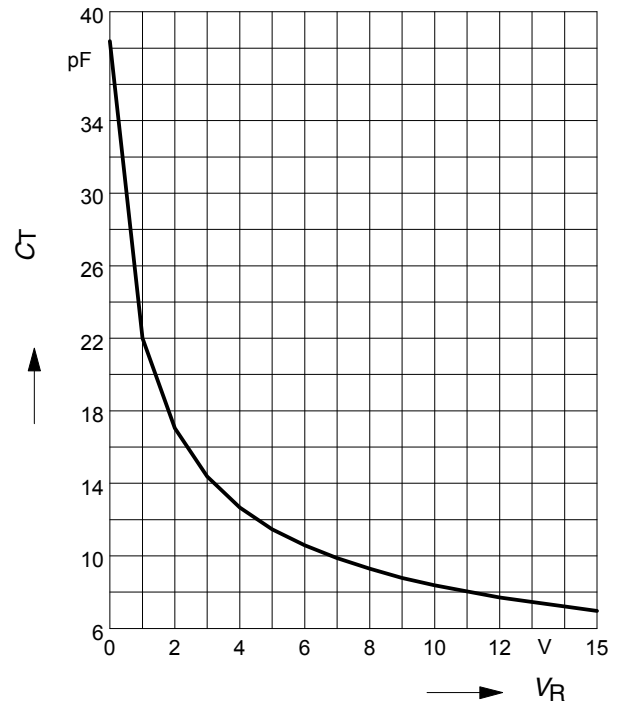
Forward current $I_F = f(T_A^*; T_S)$

* Package mounted on epoxy

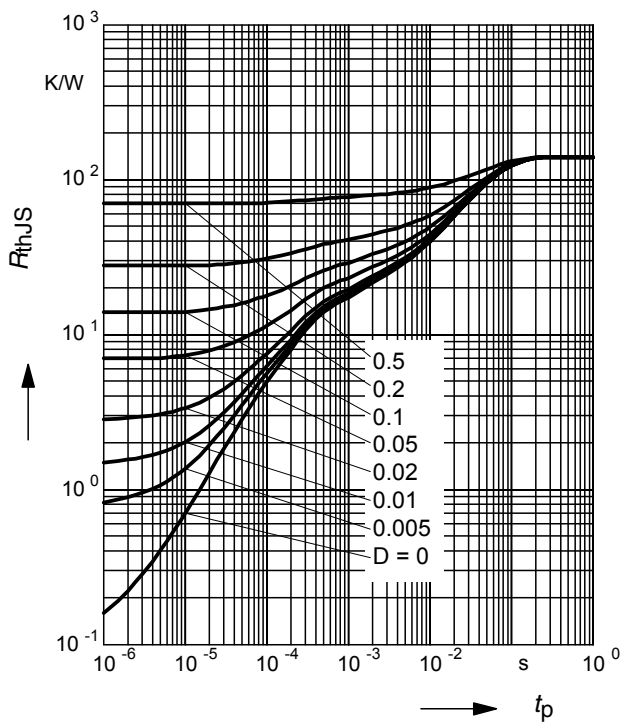


Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



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



Permissible Pulse Load

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

