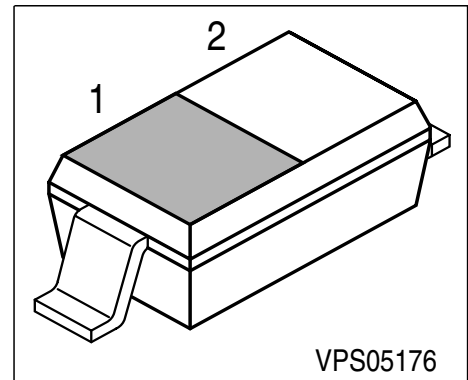


Silicon Schottky Diode

- General-purpose diode for high-speed switching
- Circuit protection
- Voltage clamping
- High-level detecting and mixing



VPS05176

Type	Marking	Pin Configuration		Package
BAS 140W	4	1 = C	2 = A	SOD-323

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	40	V
Forward current	I_F	120	mA
Surge forward current, $t \leq 10$ ms	I_{FSM}	200	
Total power dissipation, ≤ 113 °C	P_{tot}	250	mW
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-55 ... 125	
Storage temperature	T_{stg}	-55 ... 150	

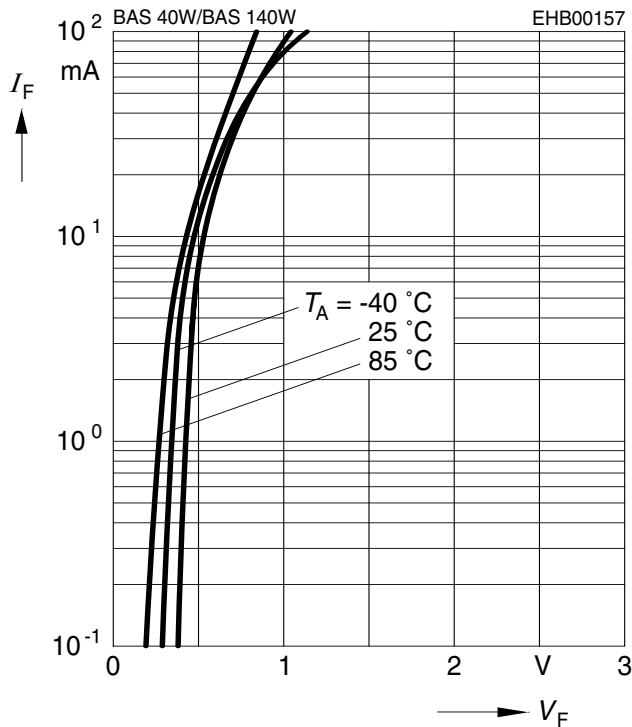
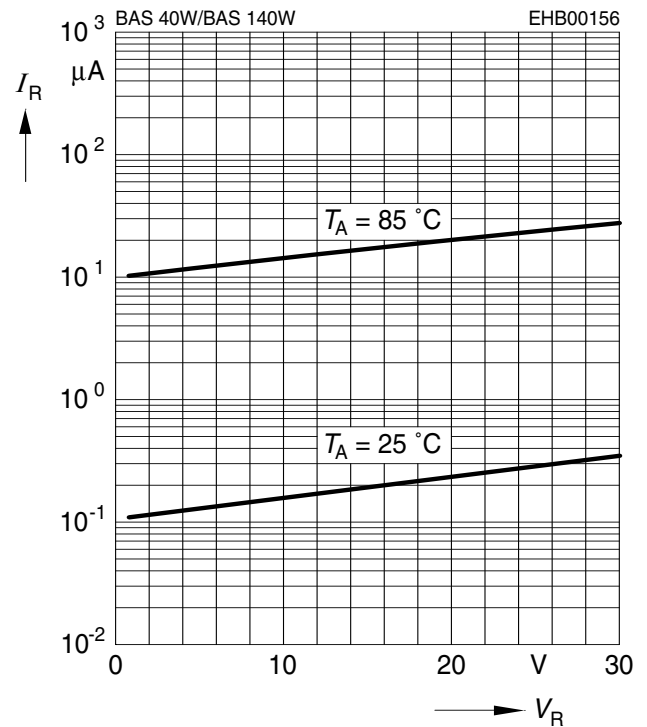
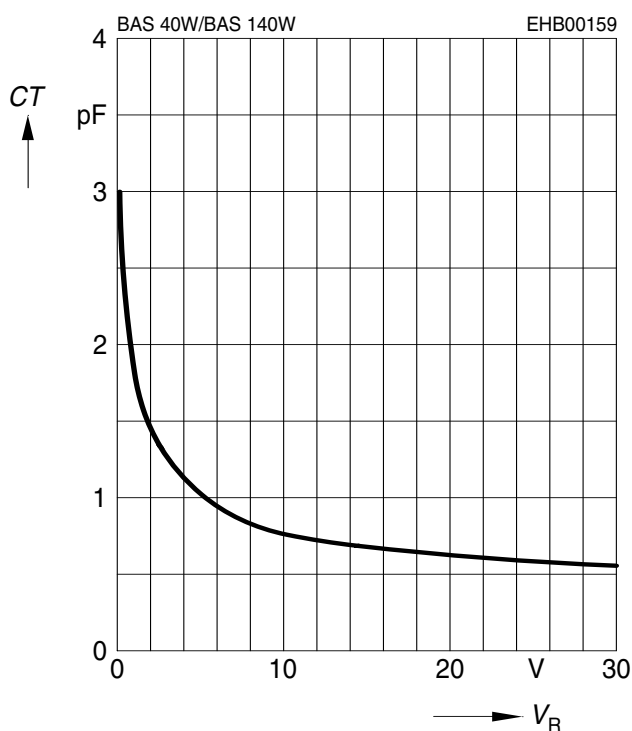
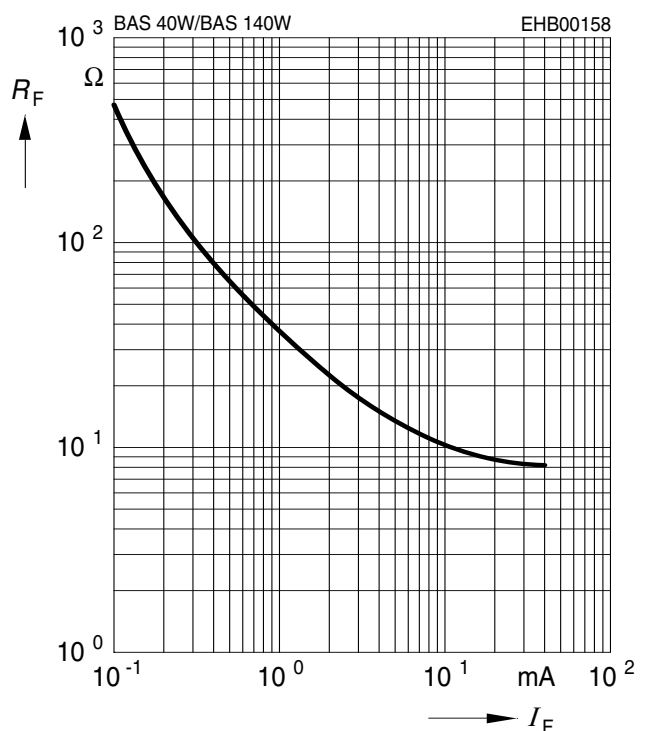
Maximum Ratings

Junction - ambient ¹⁾	R_{thJA}	≤ 260	K/W
Junction - soldering point	R_{thJS}	≤ 150	

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

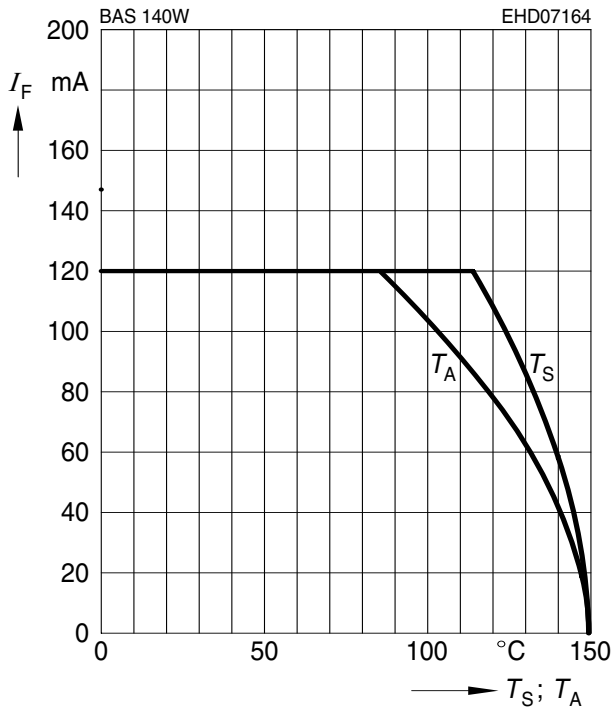
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Breakdown voltage $I_{(BR)} = 10\ \mu\text{A}$	$V_{(BR)}$	40	-	-	V
Reverse current $V_R = 30\ \text{V}$ $V_R = 40$	I_R	- -	- -	1 10	μA
Forward voltage $I_F = 1\ \text{mA}$ $I_F = 10\ \text{mA}$ $I_F = 15\ \text{mA}$	V_F	250 350 600	310 450 720	380 500 100	mV
AC characteristics					
Diode capacitance $V_R = 0\ \text{V}$, $f = 1\ \text{MHz}$	C_T	-	3	5	pF
Differential forward resistance $I_F = 5\ \text{mA}$, $f = 10\ \text{kHz}$	R_F	-	10	-	Ω
Series inductance	L_s	-	1.8	-	nH

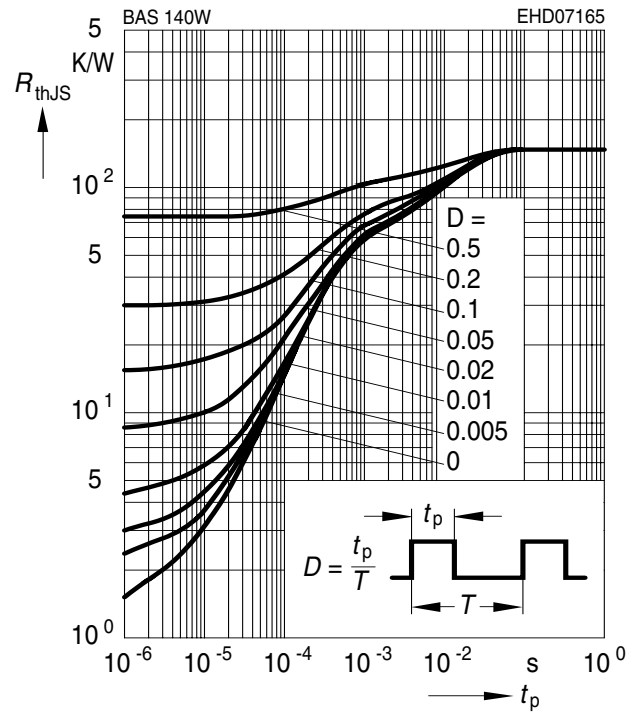
Forward current $I_F = f(V_F)$
 $T_A = 25^\circ\text{C}$

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

Diode capacitance $C_T = f(V_R)$
 $f = 1\text{MHz}$

Differential forward resistance $r_f = f(I_F)$
 $f = 10\text{kHz}$


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

* Package mounted on epoxy



Permissible pulse load $R_{thJS} = f(t_p)$



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

