

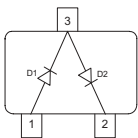
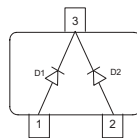
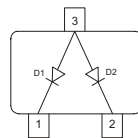
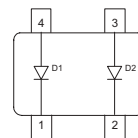


# THE DATASHEET OF BAS125-06



**Silicon Schottky Diodes**

- For low-loss, fast-recovery, meter protection, bias isolation and clamping application
- Integrated diffused guard ring
- Low forward voltage
- Pb-free (RoHS compliant) package <sup>1)</sup>
- Qualified according AEC Q101


**BAS125-04W**

**BAS125-05W**

**BAS125-06W**

**BAS125-07W**

**ESD (Electrostatic discharge) sensitive device, observe handling precaution!**

Type	Package	Configuration	$L_S$ (nH)	Marking
BAS125-04W	SOT323	series	1.4	14s
BAS125-05W	SOT323	common cathode	1.4	15s
BAS125-06W	SOT323	common anode	1.4	16s
BAS125-07W	SOT343	parallel pair	1.6	17s

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	25	V
Forward current	$I_F$	100	mA
Non-repetitive peak surge forward current	$I_{FSM}$	500	
Total power dissipation	$P_{tot}$		mW
BAS125-04W, BAS125-06W, $T_S \leq 84^\circ\text{C}$		250	
BAS125-05W, $T_S \leq 76^\circ\text{C}$		250	
BAS125-07W, $T_S \leq 96^\circ\text{C}$		250	
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 ... 150	

<sup>1</sup>Pb-containing package may be available upon special request

**Thermal Resistance**

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup> BAS125-04W, BAS125-06W BAS125-05W BAS125-07W	$R_{thJS}$	$\leq 365$ $\leq 295$ $\leq 215$	K/W

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

**DC Characteristics**

Reverse current $V_R = 20\text{ V}$ $V_R = 25\text{ V}$	$I_R$	- -	- -	100 150	nA
Forward voltage $I_F = 1\text{ mA}$ $I_F = 10\text{ mA}$ $I_F = 35\text{ mA}$	$V_F$	- - -	385 530 800	400 650 950	mV
Forward voltage matching <sup>2)</sup> $I_F = 10\text{ mA}$	$\Delta V_F$	-	-	20	

**AC Characteristics**

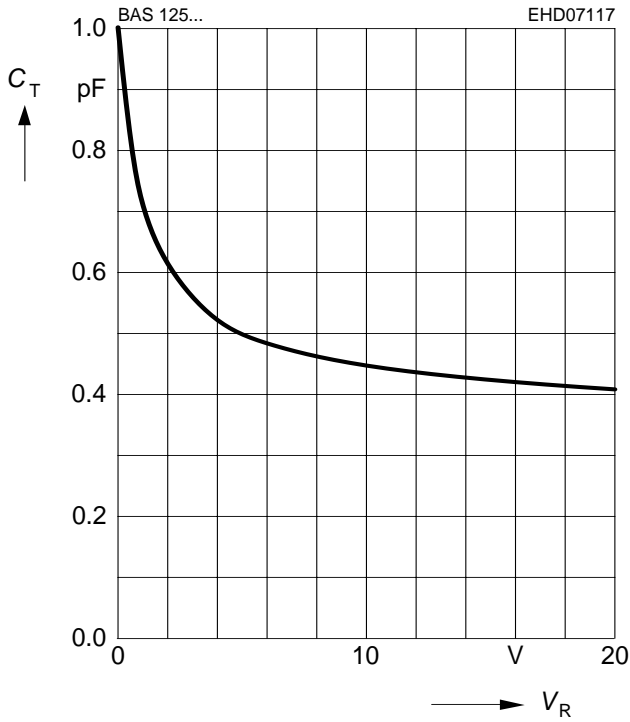
Diode capacitance $V_R = 0$ , $f = 1\text{ MHz}$	$C_T$	-	-	1.1	pF
Differential forward resistance $I_F = 5\text{ mA}$ , $f = 10\text{ kHz}$	$R_F$	-	15	-	$\Omega$

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

<sup>2)</sup> $\Delta V_F$  is the difference between lowest and highest  $V_F$  in a multiple diode component.

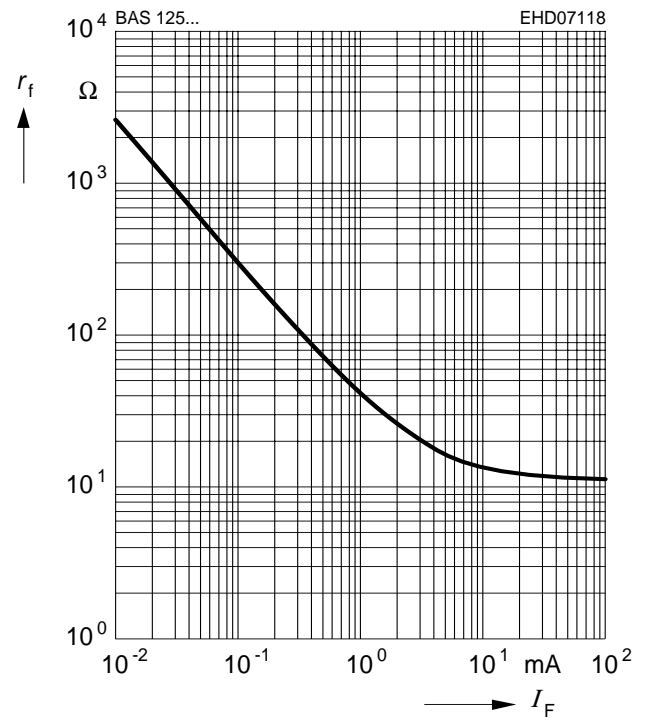
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



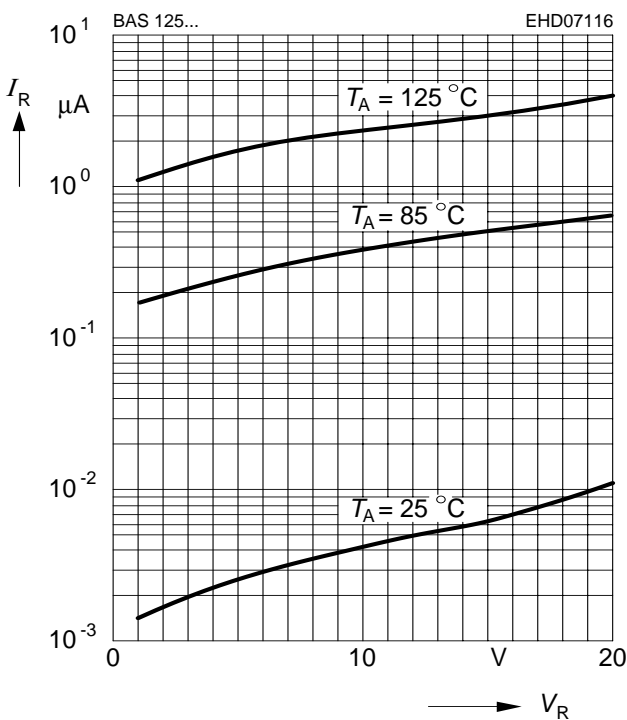
**Forward resistance  $r_f = f(I_F)$**

$f = 10\text{kHz}$



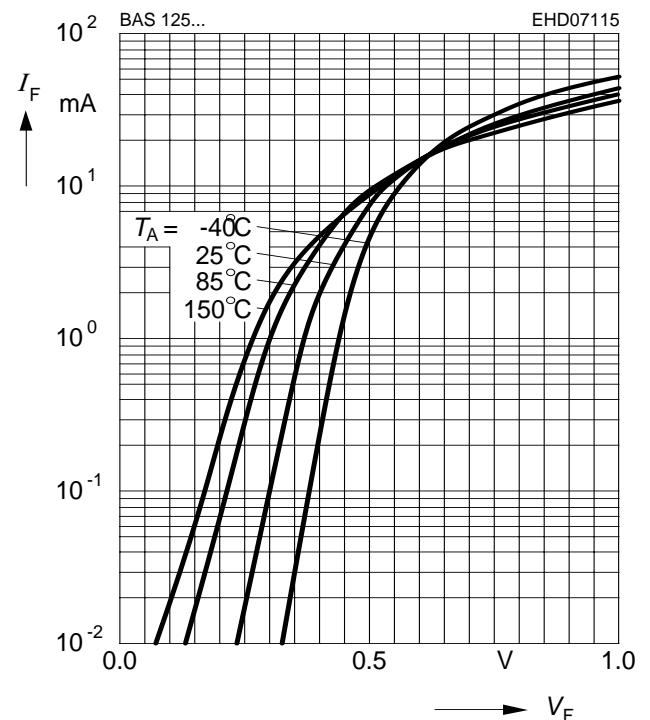
**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$



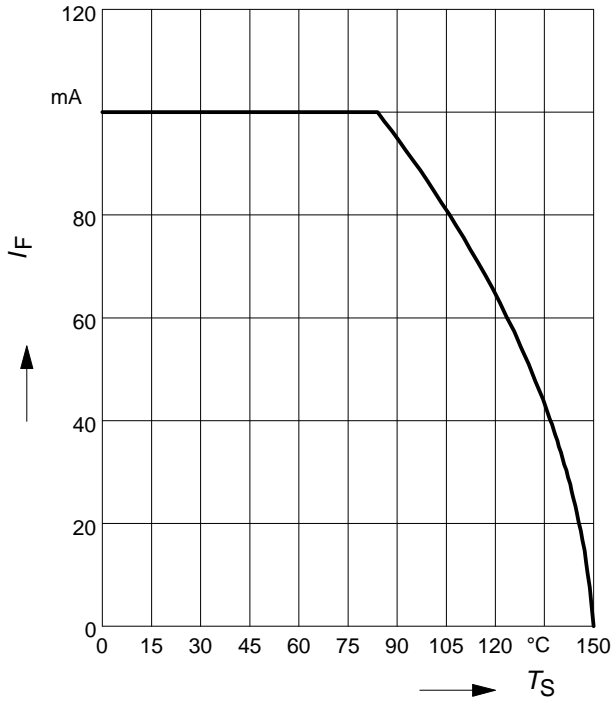
**Forward current  $I_F = f(V_F)$**

$T_A = \text{Parameter}$



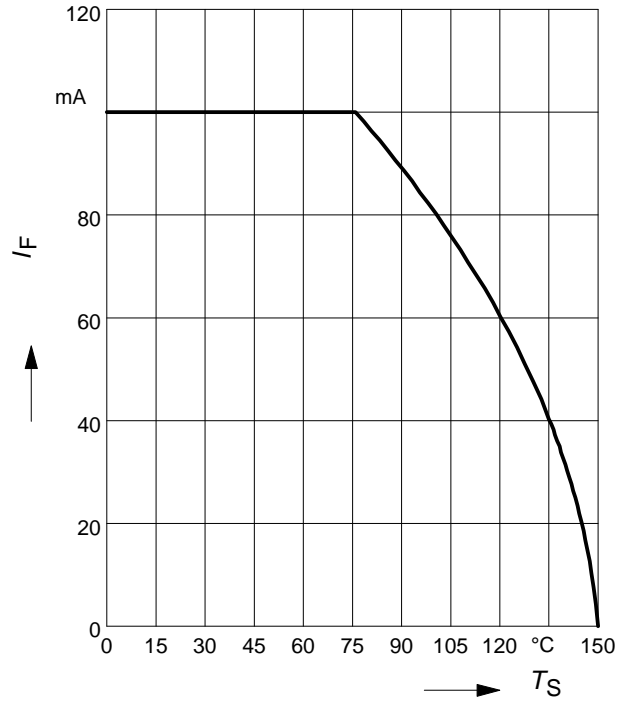
**Forward current  $I_F = f(T_S)$**

BAS125-04W, BAS125-06W



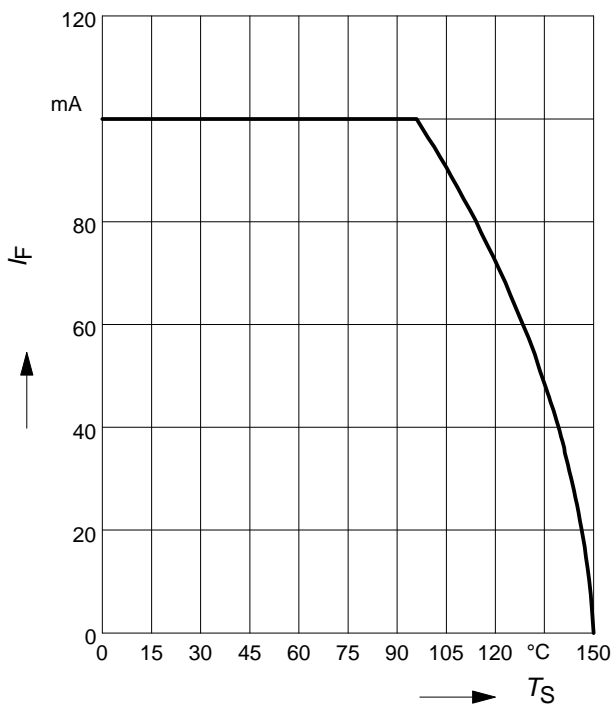
**Forward current  $I_F = f(T_S)$**

BAS125-05W



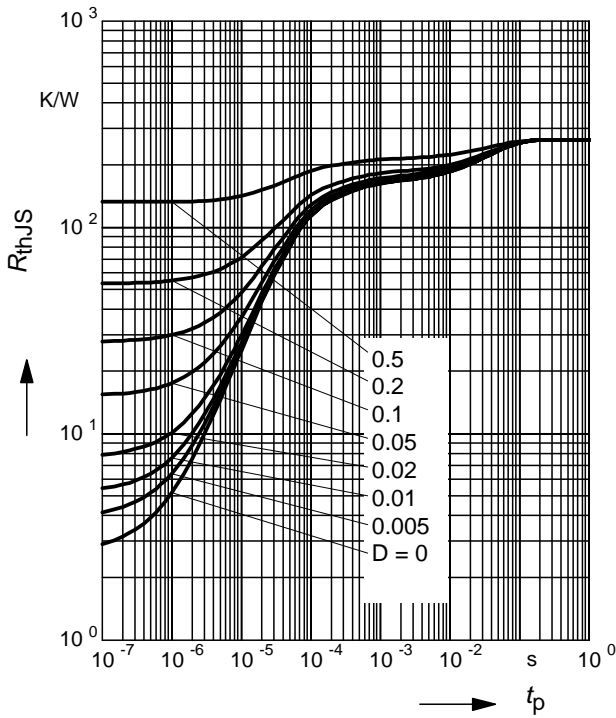
**Forward current  $I_F = f(T_S)$**

BAS125-07W



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

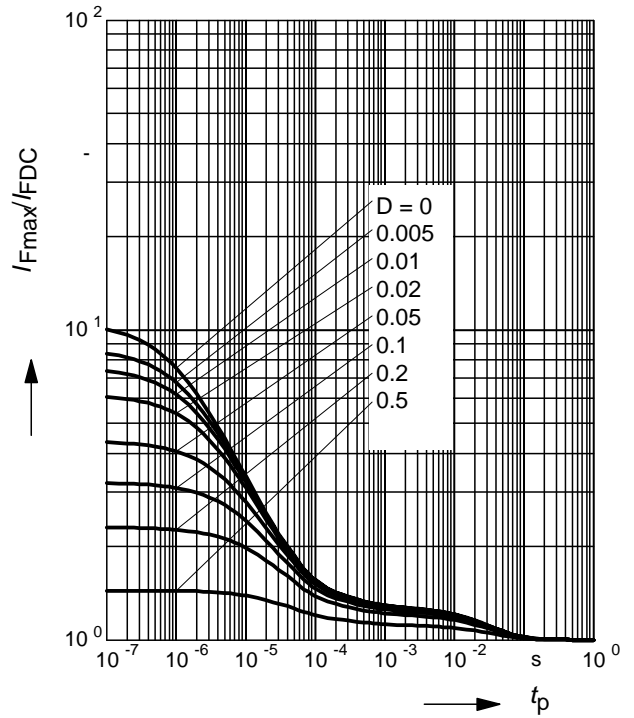
BAS125-04W, BAS125-06W



**Permissible Pulse Load**

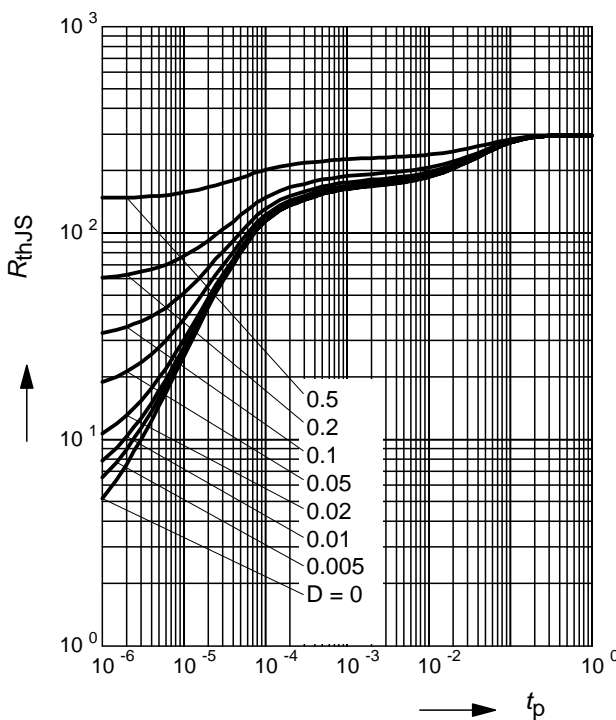
$I_{Fmax} / I_{FDC} = f(t_p)$

BAS125-04W, BAS125-06W



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

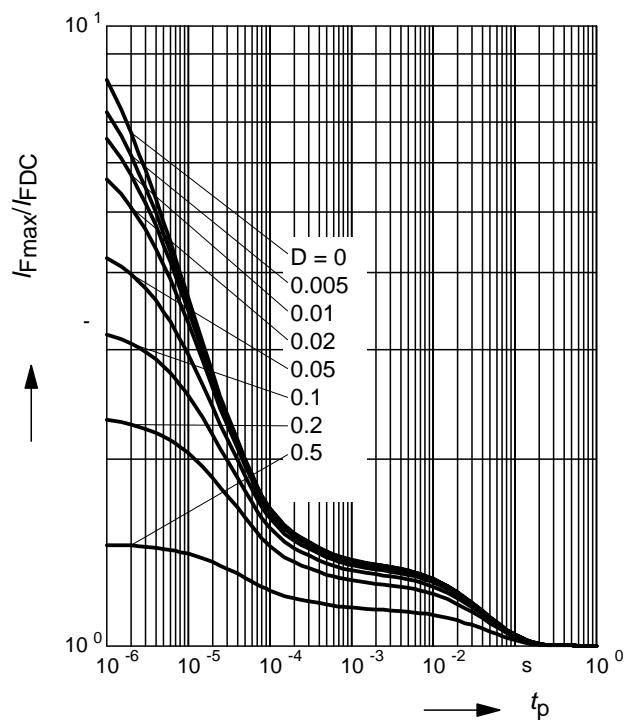
BAS125-05W



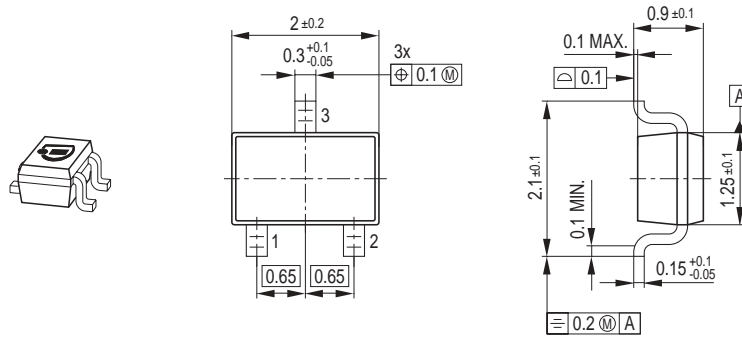
**Permissible Pulse Load**

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

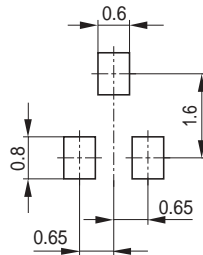
BAS125-05W



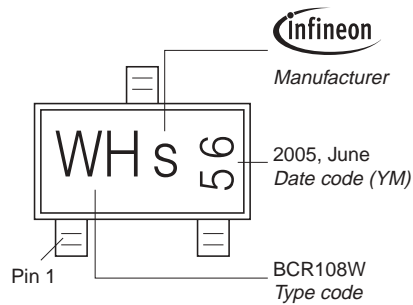
Package Outline



Foot Print

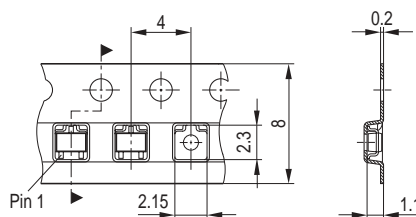


Marking Layout (Example)

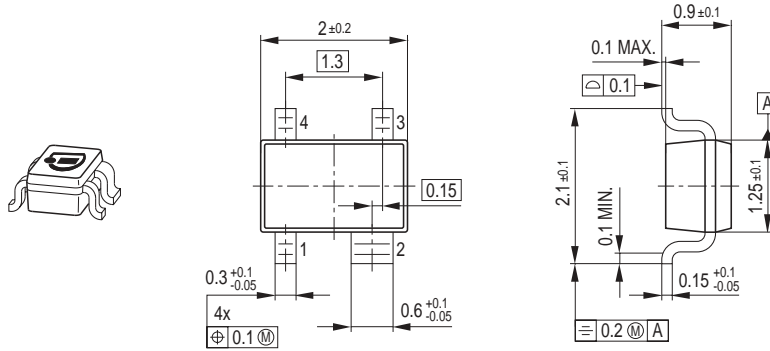


Standard Packing

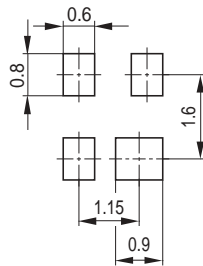
Reel ø180 mm = 3.000 Pieces/Reel  
 Reel ø330 mm = 10.000 Pieces/Reel



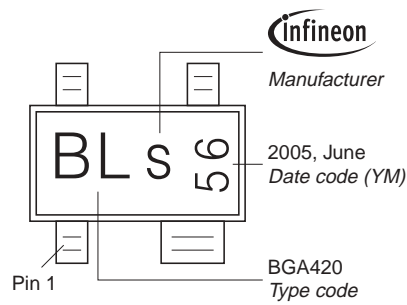
Package Outline



Foot Print

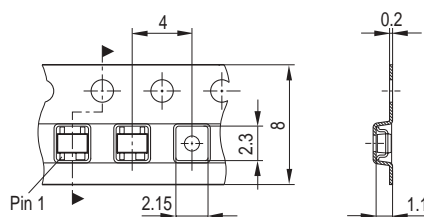


Marking Layout (Example)



Standard Packing

Reel  $\varnothing$ 180 mm = 3.000 Pieces/Reel  
 Reel  $\varnothing$ 330 mm = 10.000 Pieces/Reel



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