

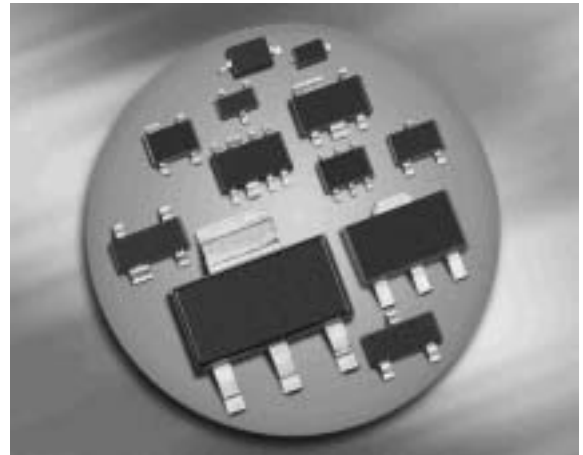


# THE DATASHEET OF PIC18F46K20-I/PT

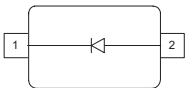


### Silicon Schottky Diode

- High current rectifier Schottky diode with extreme low  $V_F$  drop (typ. 0.12V at  $I_F = 10\text{mA}$ )
- For power supply applications
- For clamping and protection in low voltage applications
- For detection and step-up-conversion
- Pb-free (RoHS compliant) package<sup>1)</sup>
- Qualified according AEC Q101



### BAT60A



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

Type	Package	Configuration	Marking
BAT60A	SOD323	single	white/3

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

Parameter	Symbol	Value	Unit
Diode reverse voltage <sup>2)</sup>	$V_R$	10	V
Forward current	$I_F$	3	A
Non-repetitive peak surge forward current ( $t \leq 10\text{ms}$ )	$I_{FSM}$	5	
Total power dissipation $T_S \leq 28^\circ\text{C}$	$P_{tot}$	1350	mW
Junction temperature	$T_j$	150	°C
Operating temperature range	$T_{op}$	-55 ... 85	
Storage temperature	$T_{stg}$	-55 ... 150	

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

<sup>2)</sup>For  $T_A > 25^\circ\text{C}$  the derating of  $V_R$  has to be considered. Please refer to curve Permissible reverse voltage.

**Thermal Resistance**

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup>	$R_{thJS}$	$\leq 90$	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 <sup>2)</sup>	$I_R$				mA
$V_R = 5\text{ V}$		-	0.3	1	
$V_R = 8\text{ V}$		-	0.6	2.6	
$V_R = 5\text{ V}, T_A = 80^\circ\text{C}$		-	18	-	
Forward voltage <sup>2)</sup>	$V_F$				V
$I_F = 10\text{ mA}$		0.1	0.12	0.15	
$I_F = 100\text{ mA}$		0.15	0.2	0.23	
$I_F = 1000\text{ mA}$		0.22	0.3	0.37	

**AC Characteristics**

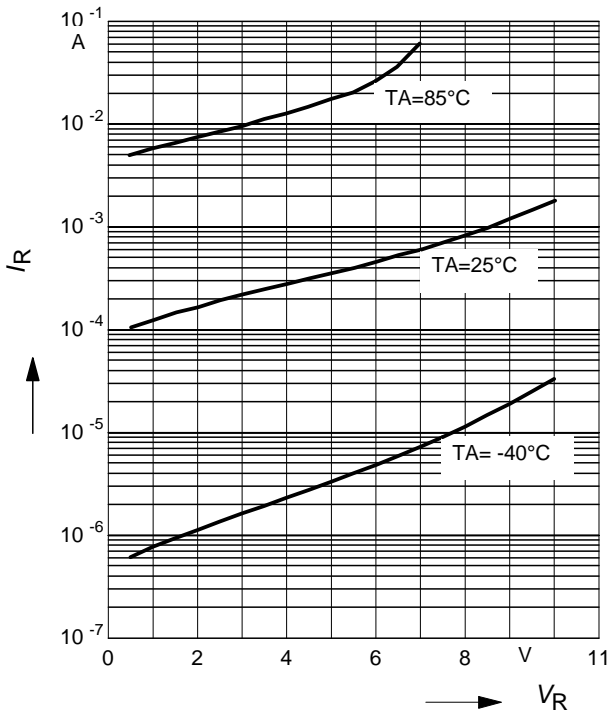
Diode capacitance	$C_T$	-	20	35	pF
$V_R = 5\text{ V}, f = 1\text{ MHz}$					

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

<sup>2</sup>Pulsed test:  $t_p = 300\ \mu\text{s}; D = 0.01$

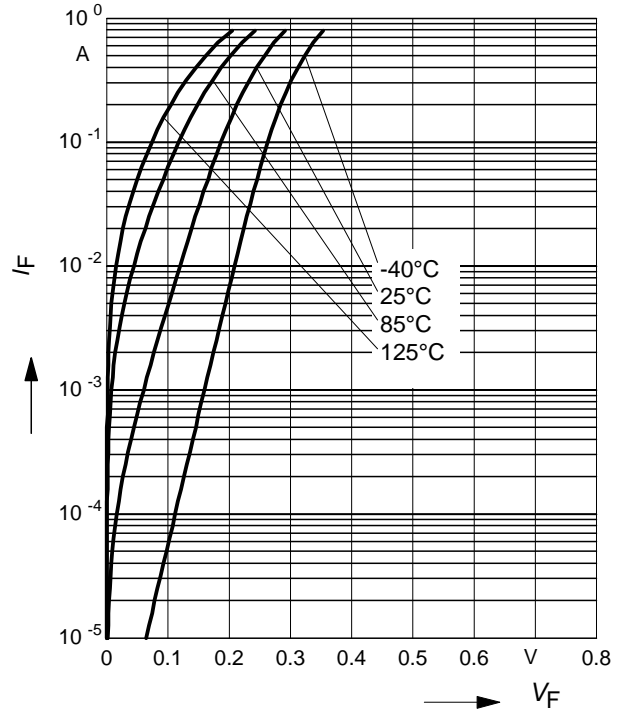
**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$



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

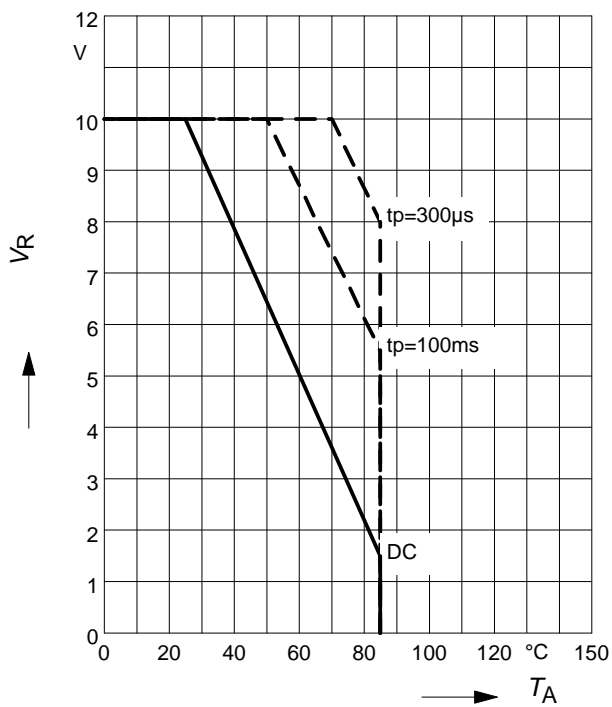
$T_A = \text{Parameter}$



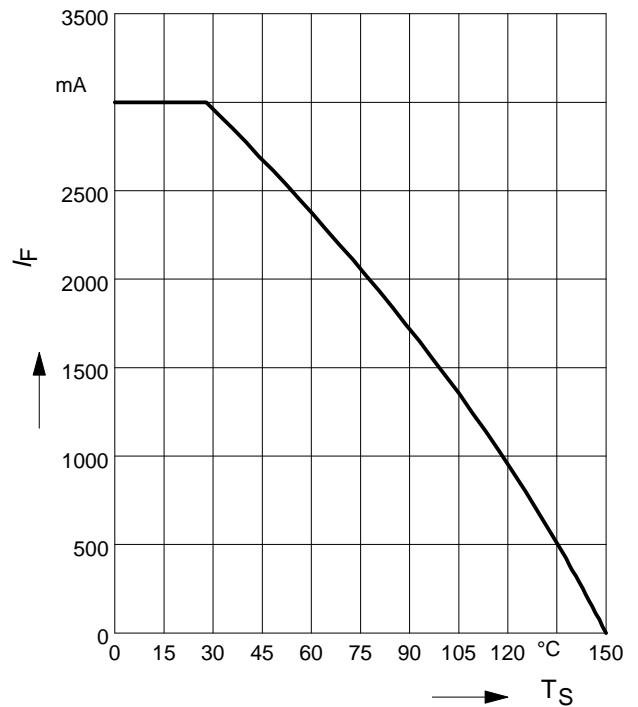
**Permissible Reverse voltage  $V_R = f(T_A)$**

$t_p = \text{Parameter}$ ; duty cycle  $< 0.01$

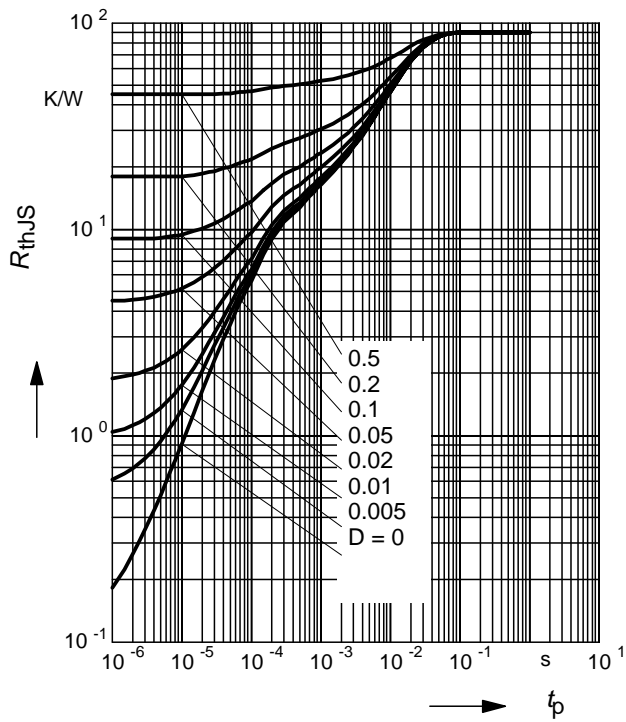
Device mounted on PCB with  $R_{th} = 160 \text{ K/W}$



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

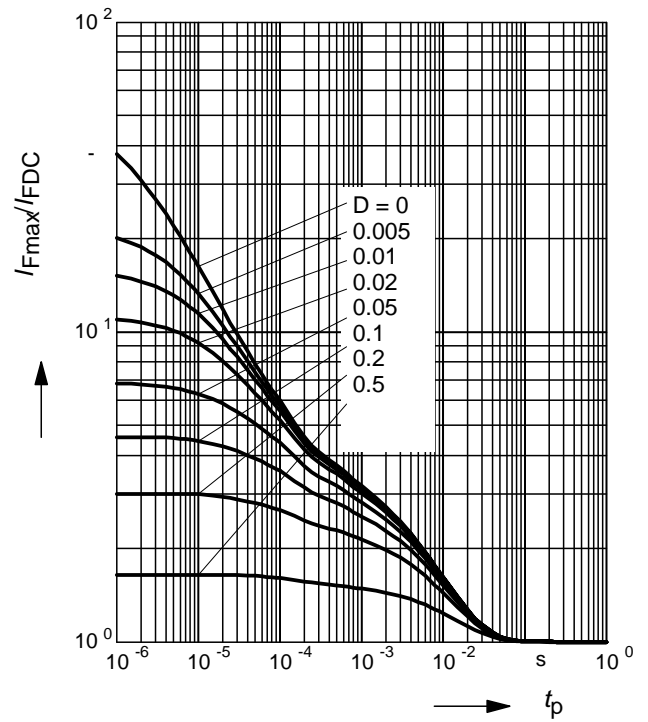


Permissible Puls Load  $R_{thJS} = f(t_p)$

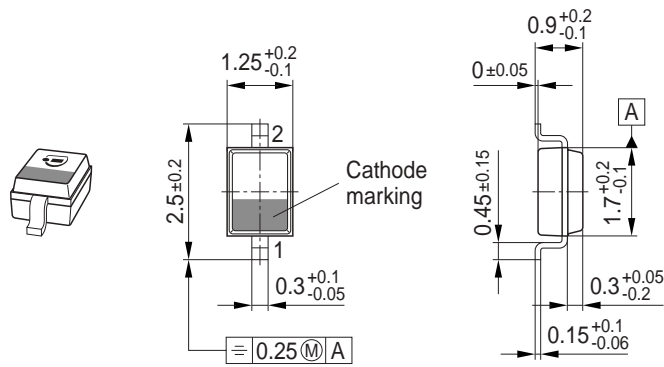


Permissible Pulse Load

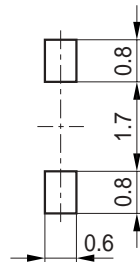
$I_{Fmax} / I_{FDC} = f(t_p)$



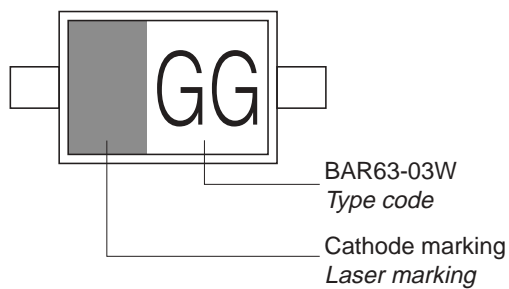
Package Outline



Foot Print

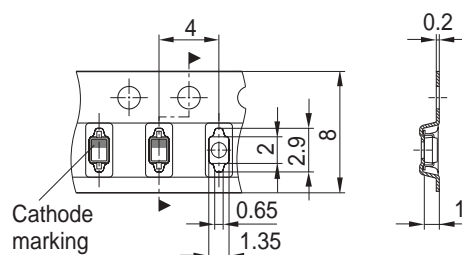


Marking Layout (Example)



Standard Packing

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



Edition 2006-02-01  
Published by  
Infineon Technologies AG  
81726 München, Germany  
© Infineon Technologies AG 2007.  
All Rights Reserved.

### **Attention please!**

The information given in this dokument shall in no event be regarded as a guarantee of conditions or characteristics ("Beschaffenheitsgarantie"). With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation warranties of non-infringement of intellectual property rights of any third party.

### **Information**

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office ([www.infineon.com](http://www.infineon.com)).

### **Warnings**



Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office.

Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system.

Life support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

-  [View PIC18F46K20-I/PT on WIN SOURCE](#)
-  [Microchip Technology](#) Information

## Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management