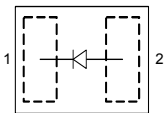


Low VF Schottky Diode

- Reverse voltage: 40 V
- Forward current: 0.2 A
- Low forward voltage and smallest package form factor (1.0 x 0.6 x < 0.4 mm) for mobile phone battery charger application
- Pb-free (RoHS compliant) package


BAS4002S-02LRH


Type	Package	Configuration	Marking
BAS4002S-02LRH	TSLP-2-17	single	2A

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

Parameter	Symbol	Value	Unit
Diode reverse voltage ¹⁾	V_R	40	V
Forward current ¹⁾ , $T_S \leq 138\text{ °C}$	I_F	0.2	A
Non-repetitive peak surge forward current ($t \leq 10\text{ ms}$)	I_{FSM}	2	
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-55 ... 150	
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

Junction - soldering point ²⁾	R_{thJS}	≤ 60	K/W
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¹⁾For $T_A > 25\text{ °C}$ the derating of V_R and I_F has to be considered.

²⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

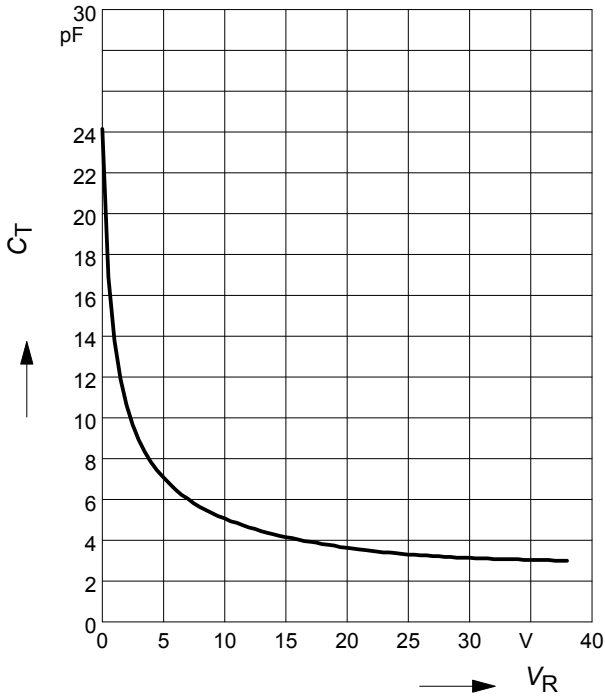
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current ¹⁾	I_R				μA
$V_R = 5\text{ V}$		-	-	0.5	
$V_R = 10\text{ V}$		-	-	1	
$V_R = 40\text{ V}$		-	-	10	
Forward voltage ¹⁾	V_F				mV
$I_F = 0.1\text{ mA}$		-	210	250	
$I_F = 1\text{ mA}$		-	270	310	
$I_F = 10\text{ mA}$		-	330	370	
$I_F = 100\text{ mA}$		-	420	470	
$I_F = 200\text{ mA}$		-	470	550	
AC Characteristics					
Diode capacitance	C_T	-	7	12	pF
$V_R = 5\text{ V}, f = 1\text{ MHz}$					

¹⁾Pulsed test: $t_p = 300\ \mu\text{s}$, $D = 0.01$

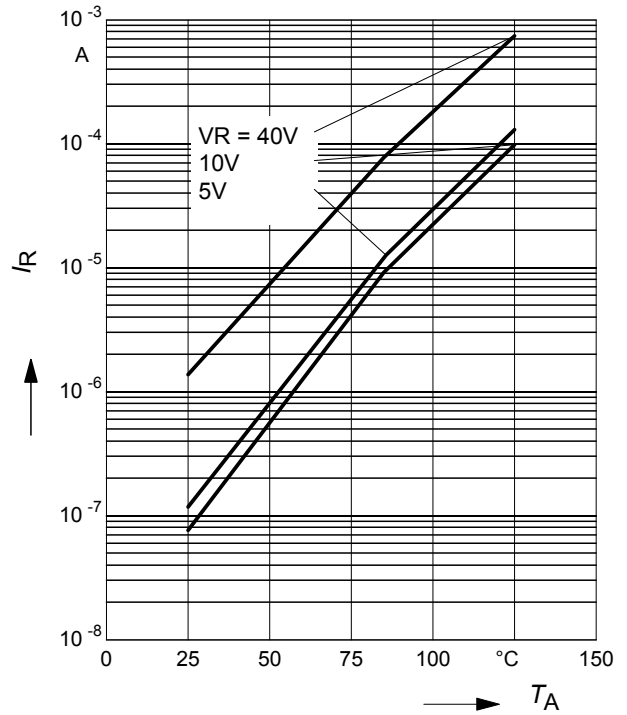
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



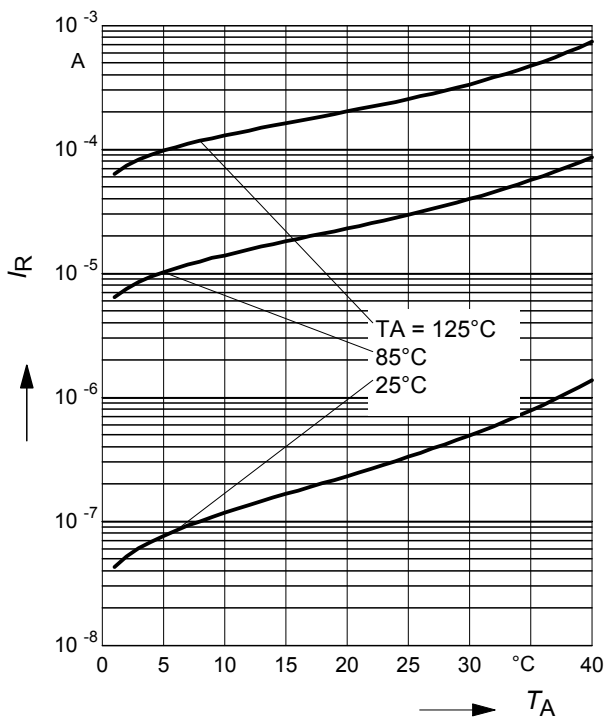
Reverse current $I_R = f(T_A)$

$V_R = \text{Parameter}$



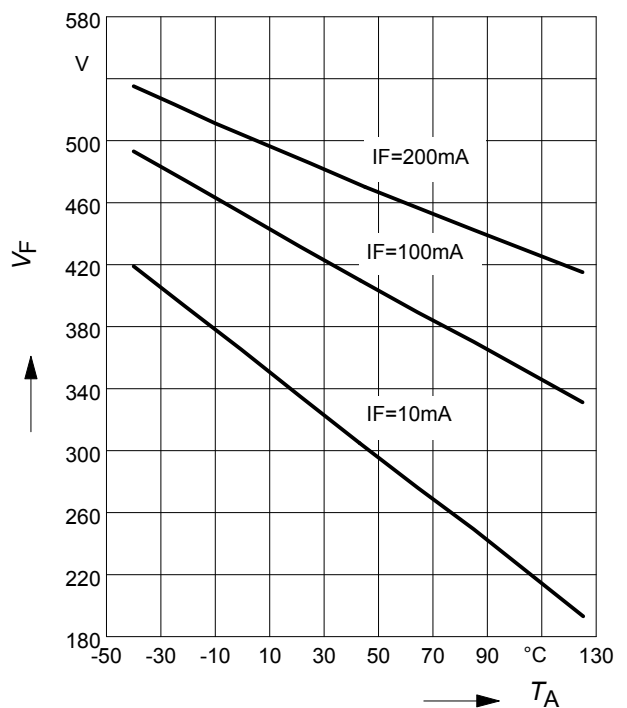
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$

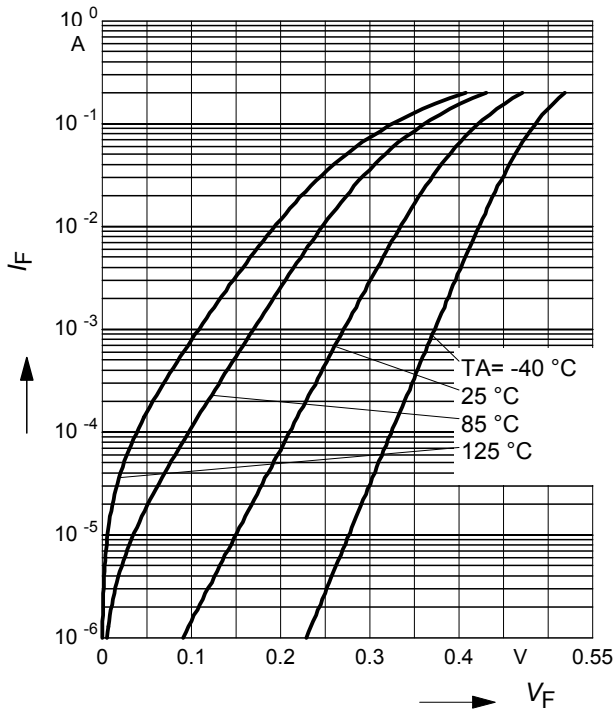


Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



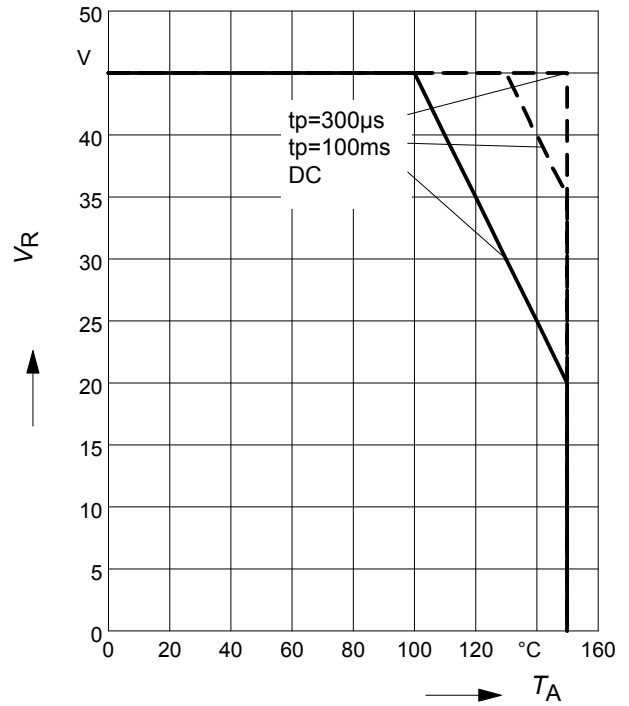
Forward current $I_F = f(V_F)$



Permissible Reverse voltage $V_R = f(T_A)$

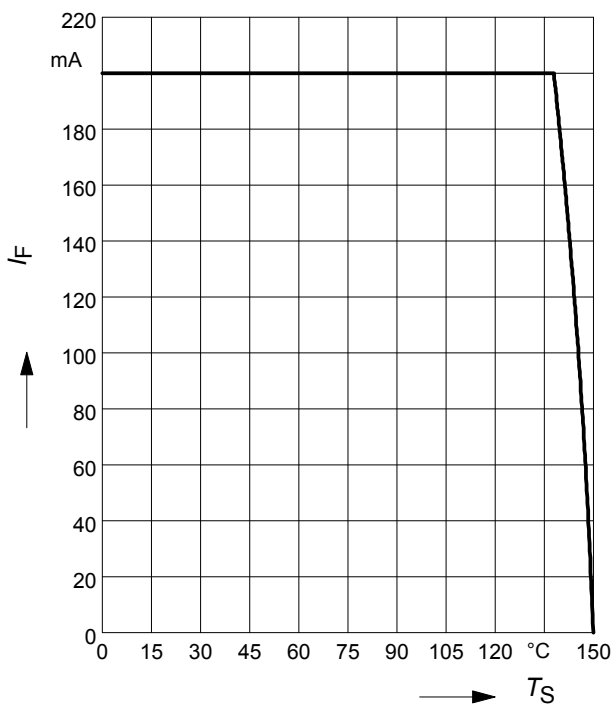
t_p = Parameter, Duty cycle < 0.01

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

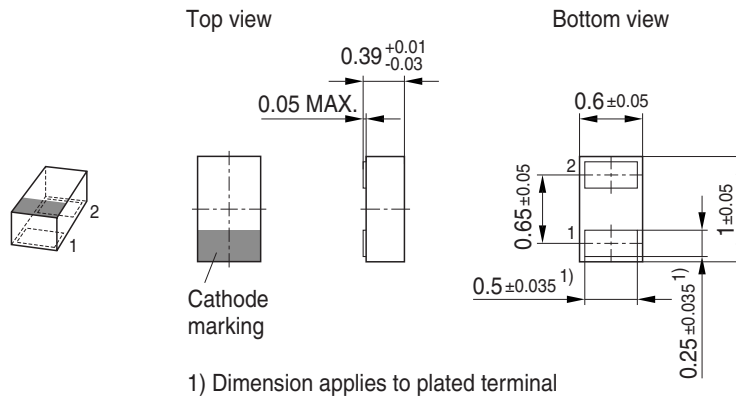


Forward current $I_F = f(T_S)$

BAS4002S-02LRH

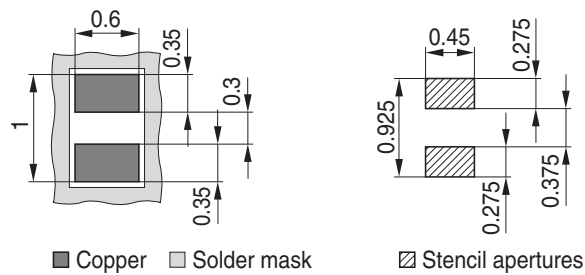


Package Outline

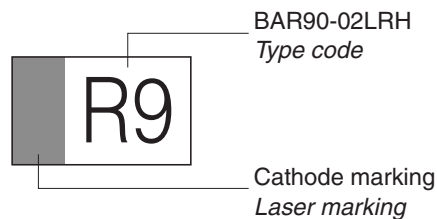


Foot Print

For board assembly information please refer to Infineon website "Packages"

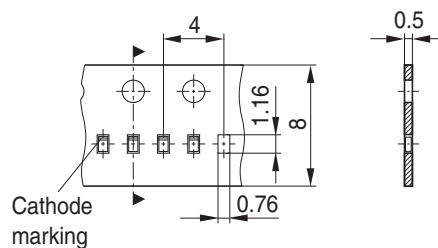


Marking Layout (Example)



Standard Packing

Reel \varnothing 180 mm = 15.000 Pieces/Reel
 Reel \varnothing 330 mm = 50.000 Pieces/Reel (optional)



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