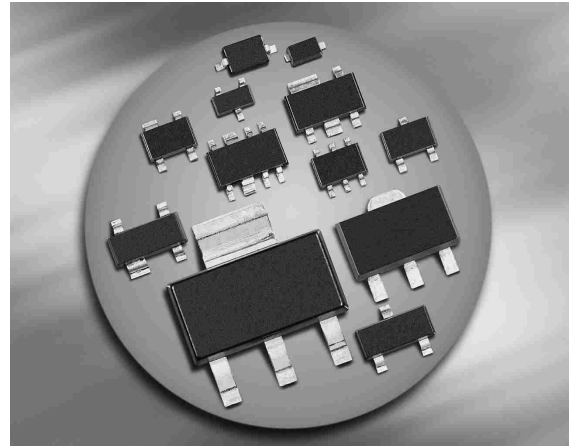
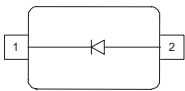


**Silicon RF Switching Diode**

- For band switching in TV/VTR tuners and mobile applications
- Very low forward resistance (typ. 0.45  $\Omega$  @ 3 mA)
- small capacitance



**BA592**  
**BA892/-02L**  
**BA892-02V**



Type	Package	Configuration	$L_S$ (nH)	Marking
BA592	SOD323	single	1.8	blue S
BA892	SCD80	single	0.6	AA
BA892-02L	TSLP-2-1	single, leadless	0.4	AA
BA892-02V	SC79	single	0.6	A

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	35	V
Forward current	$I_F$	100	mA
Junction temperature	$T_j$	150	$^\circ\text{C}$
Operating temperature range	$T_{op}$	-55 ... 125	
Storage temperature	$T_{stg}$	-55 ... 150	

**Thermal Resistance**

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup>	$R_{thJS}$		K/W
BA592		$\leq 135$	
BA892, BA892-02V		$\leq 120$	
BA892-02L		$\leq 70$	

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

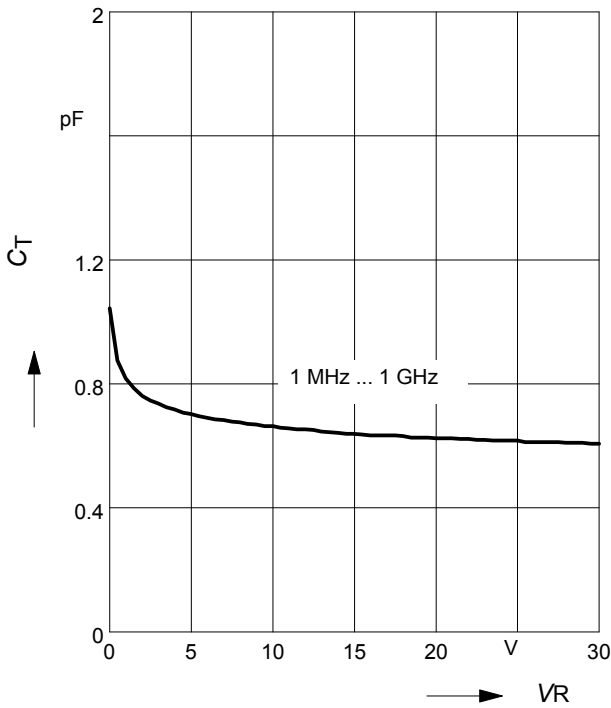
**Electrical Characteristics at  $T_A = 25^\circ\text{C}$ , unless otherwise specified**

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>DC Characteristics</b>					
Reverse current $V_R = 20\text{ V}$	$I_R$	-	-	20	nA
Forward voltage $I_F = 100\text{ mA}$	$V_F$	-	-	1	V
<b>AC Characteristics</b>					
Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 3\text{ V}, f = 1\text{ MHz}$ $V_R = 0\text{ V}, f = 100\text{ MHz}$	$C_T$	0.65 0.6 -	0.92 0.85 1	1.4 1.1 -	pF
Reverse parallel resistance $V_R = 0\text{ V}, f = 100\text{ MHz}$	$R_P$	-	100	-	k $\Omega$
Forward resistance $I_F = 3\text{ mA}, f = 100\text{ MHz}$ $I_F = 10\text{ mA}, f = 100\text{ MHz}$	$r_f$	- -	0.45 0.36	0.7 0.5	$\Omega$
Charge carrier life time $I_F = 10\text{ mA}, I_R = 6\text{ mA}$ , measured at $I_R = 3\text{ mA}$ , $R_L = 100\ \Omega$	$\tau_{rr}$	-	120	-	ns
I-region width	$W_I$	-	3	-	$\mu\text{m}$
Insertion loss <sup>1)</sup> $I_F = 0.1\text{ mA}, f = 1\text{ GHz}$ $I_F = 3\text{ mA}, f = 1\text{ GHz}$ $I_F = 10\text{ mA}, f = 1\text{ GHz}$	$ S_{21} ^2$	- - -	-0.1 -0.05 -0.04	- - -	dB
Isolation <sup>1)</sup> $V_R = 0\text{ V}, f = 100\text{ MHz}$ $V_R = 0\text{ V}, f = 470\text{ MHz}$ $V_R = 0\text{ V}, f = 1\text{ GHz}$	$ S_{21} ^2$	- - -	-23.5 -10.5 -5.5	- - -	

<sup>1</sup>BA892-02L in series configuration,  $Z = 50\ \Omega$

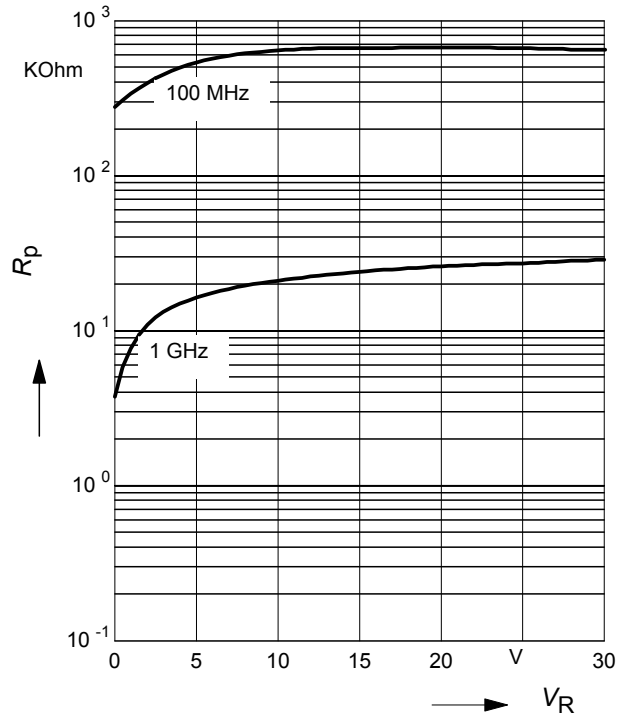
**Diode capacitance  $C_T = f(V_R)$**

$f = \text{Parameter}$



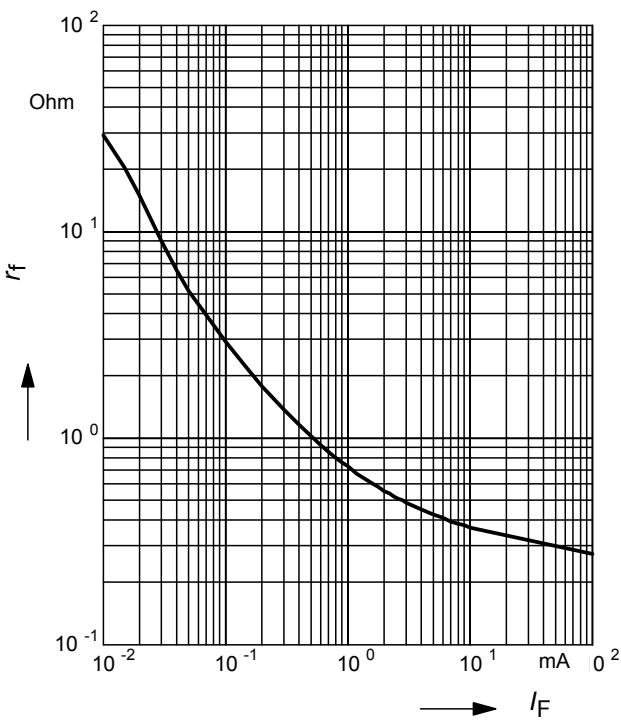
**Reverse parallel resistance  $R_P = f(V_R)$**

$f = \text{Parameter}$



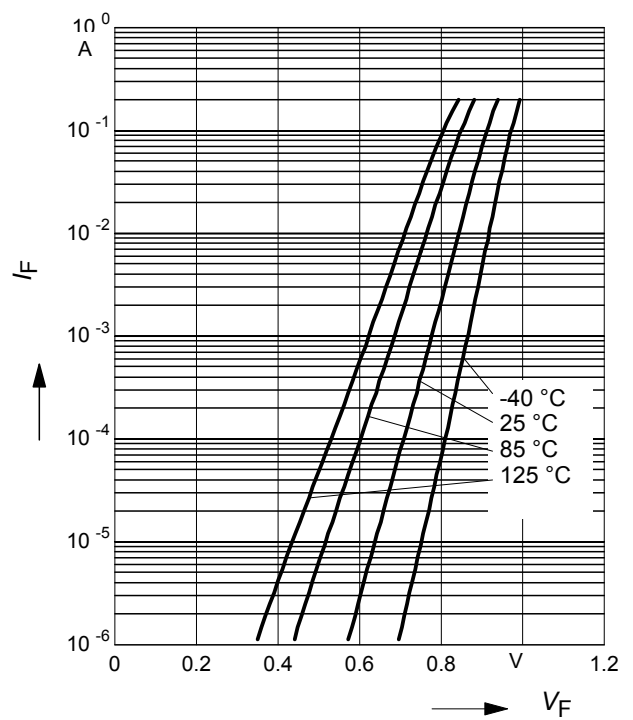
**Forward resistance  $r_f = f(I_F)$**

$f = 100\text{MHz}$



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

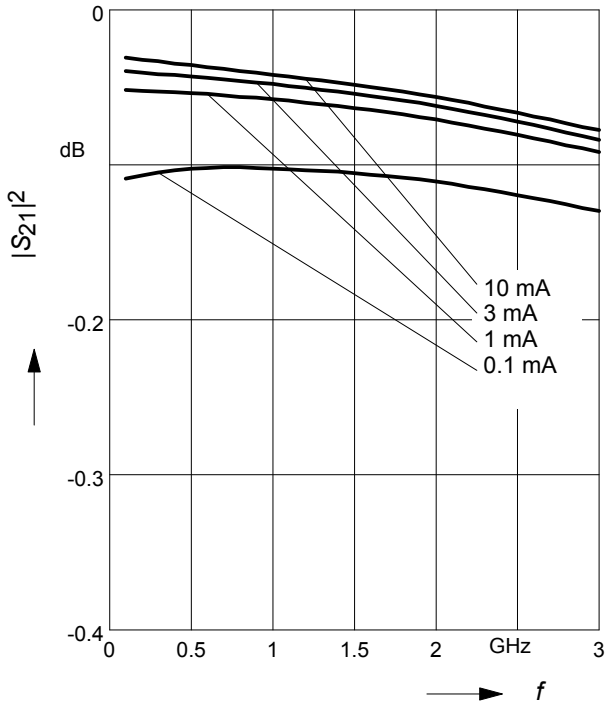
$T_A = \text{Parameter}$



**Insertion loss**  $|S_{21}|^2 = f(f)$

$I_F$  = Parameter

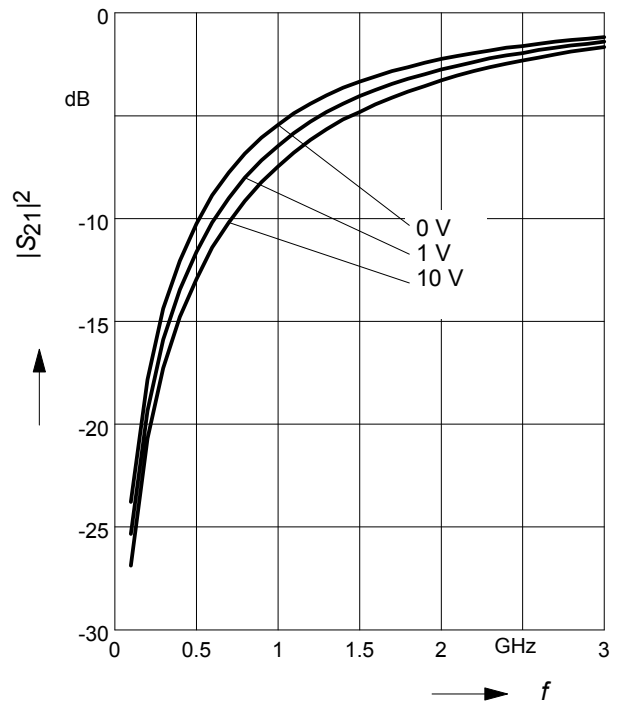
BA892-02L in series configuration,  $Z = 50\Omega$



**Isolation**  $|S_{21}|^2 = f(f)$

$V_R$  = Parameter

BA892-02L in series configuration,  $Z = 50\Omega$



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