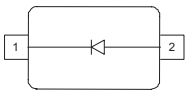


Silicon RF Switching Diode

- For band switching in TV/VTR tuners and mobile applications
- Very low forward resistance (typ. 0.45 Ω @ 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 ¹⁾	R_{thJS}		K/W
BA592		≤ 135	
BA892, BA892-02V		≤ 120	
BA892-02L		≤ 70	

¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

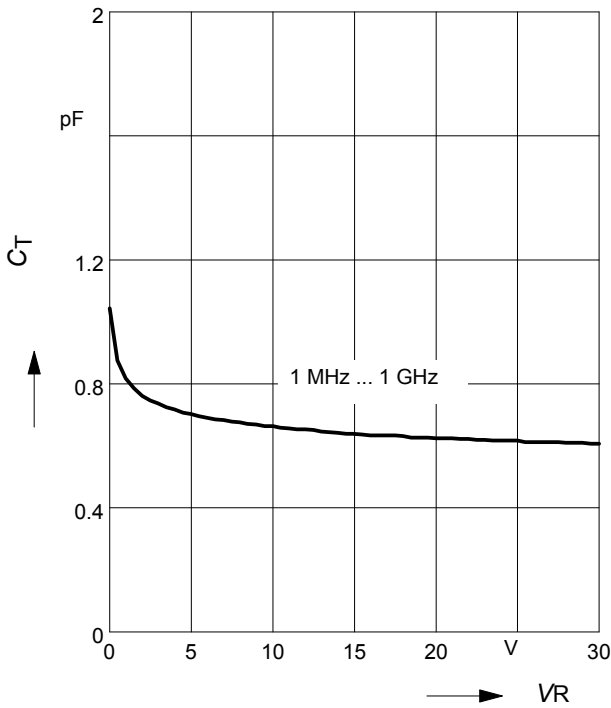
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current $V_R = 20\text{ V}$	I_R	-	-	20	nA
Forward voltage $I_F = 100\text{ mA}$	V_F	-	-	1	V
AC Characteristics					
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 Ω
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	Ω
Charge carrier life time $I_F = 10\text{ mA}, I_R = 6\text{ mA}$, measured at $I_R = 3\text{ mA}$, $R_L = 100\ \Omega$	τ_{rr}	-	120	-	ns
I-region width	W_I	-	3	-	μm
Insertion loss ¹⁾ $I_F = 0.1\text{ mA}, f = 1\text{ GHz}$ $I_F = 3\text{ mA}, f = 1\text{ GHz}$ $I_F = 10\text{ mA}, f = 1\text{ GHz}$	$ S_{21} ^2$	- - -	-0.1 -0.05 -0.04	- - -	dB
Isolation ¹⁾ $V_R = 0\text{ V}, f = 100\text{ MHz}$ $V_R = 0\text{ V}, f = 470\text{ MHz}$ $V_R = 0\text{ V}, f = 1\text{ GHz}$	$ S_{21} ^2$	- - -	-23.5 -10.5 -5.5	- - -	

¹BA892-02L in series configuration, $Z = 50\ \Omega$

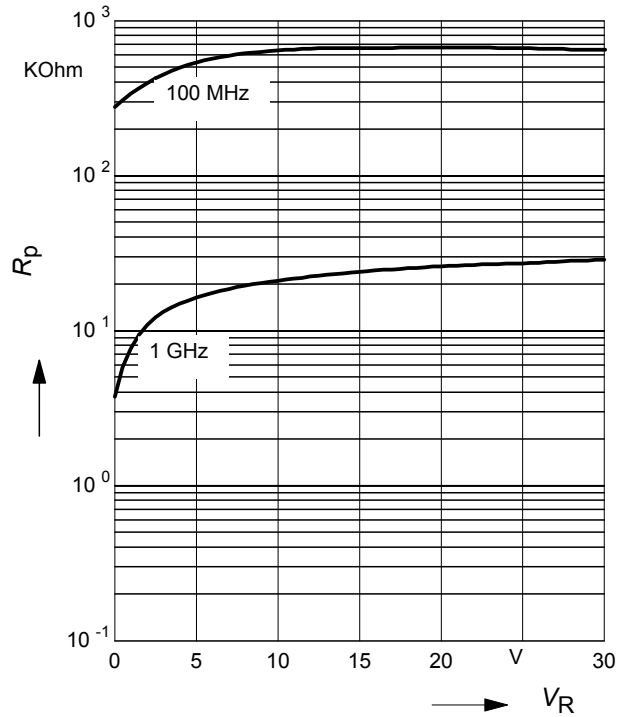
Diode capacitance $C_T = f(V_R)$

$f = \text{Parameter}$



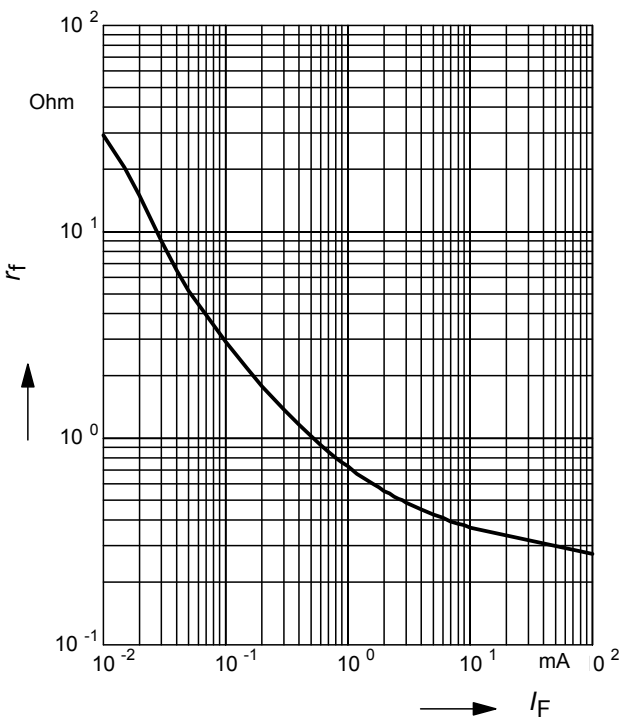
Reverse parallel resistance $R_P = f(V_R)$

$f = \text{Parameter}$



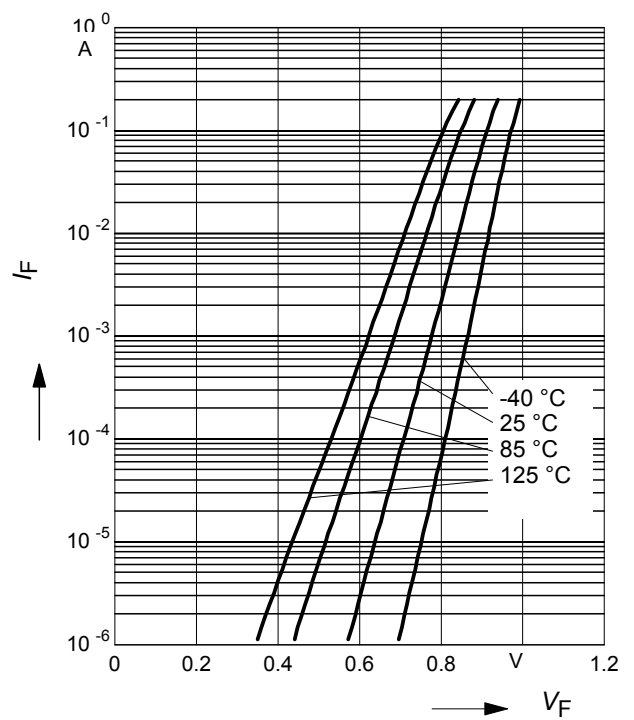
Forward resistance $r_f = f(I_F)$

$f = 100\text{MHz}$



Forward current $I_F = f(V_F)$

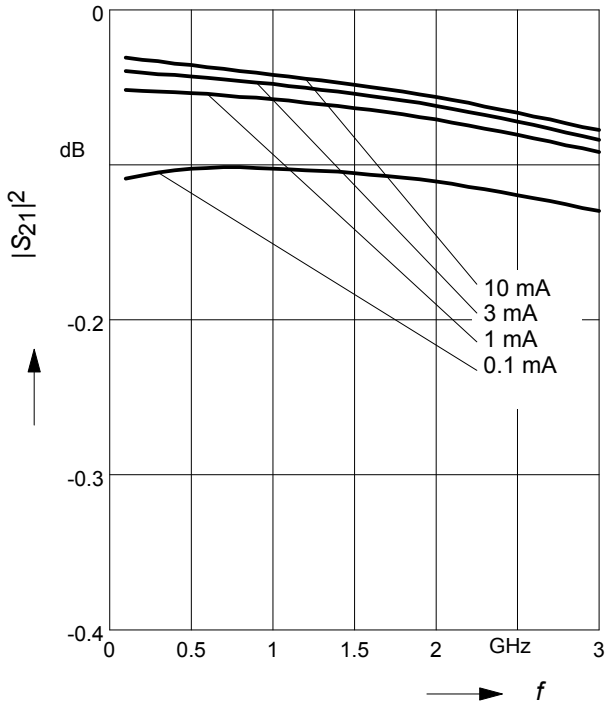
$T_A = \text{Parameter}$



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, $Z = 50\Omega$

