

# Band-switching diode

## FEATURES

- Ultra small plastic SMD package
- Low diode capacitance: max. 1.05 pF
- Low diode forward resistance: max. 0.7  $\Omega$
- Small inductance.

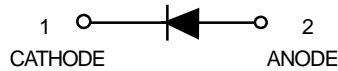
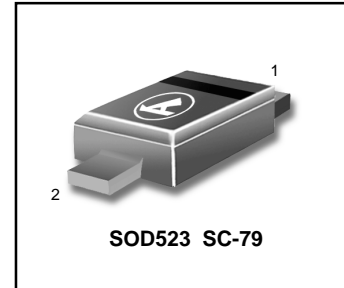
## APPLICATIONS

- Low loss band-switching in VHF television tuners
- Surface mount band-switching circuits.

## DESCRIPTION

The BA891 is a planar, high performance band-switching diode in the ultra small SOD523 SMD plastic package.

**BA 891**



**LIMITING VALUES** In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_R$	continuous reverse voltage		–	35	V
$I_F$	continuous forward current		–	100	mA
$P_{tot}$	total power dissipation	$T_s = 90^\circ\text{C}$	–	715	mW
$T_{stg}$	storage temperature		-65	+150	$^\circ\text{C}$
$T_j$	junction temperature		-65	+150	$^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS**  $T_j = 25^\circ\text{C}$  unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT	
$V_F$	forward voltage	$I_F = 10\text{ mA}$	–	1	V	
$I_R$	reverse current	$V_R = 30\text{ V}$	–	20	nA	
$C_d$	diode capacitance	$f = 1\text{ MHz}$ ; note 1; see Fig.1				
			$V_R = 1\text{ V}$	0.8	1.05	pF
			$V_R = 3\text{ V}$	0.65	0.9	pF
$r_D$	diode forward resistance	$f = 100\text{ MHz}$ ; note 1; see Fig.2				
			$I_F = 3\text{ mA}$	0.45	0.7	$\Omega$
			$I_F = 10\text{ mA}$	0.36	0.5	$\Omega$
$L_s$	series inductance		0.6	–	nH	

### Note

1. Guaranteed on AQL basis; inspection level S4, AQL 1.0.

### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-s}$	thermal resistance from junction to soldering-point	85	K/W

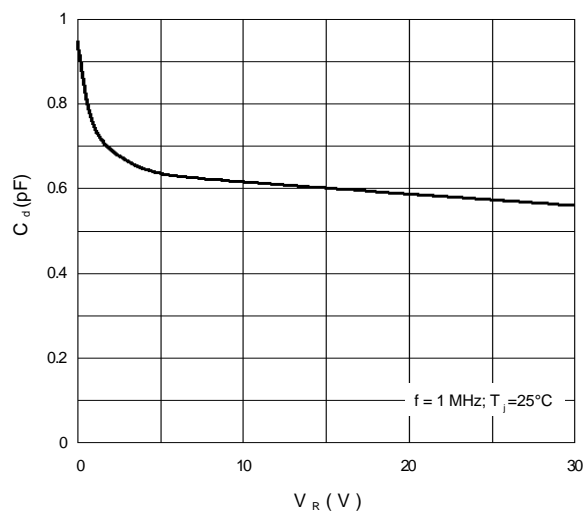
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Fig.1 Diode capacitance as a function of reverse voltage; typical values.

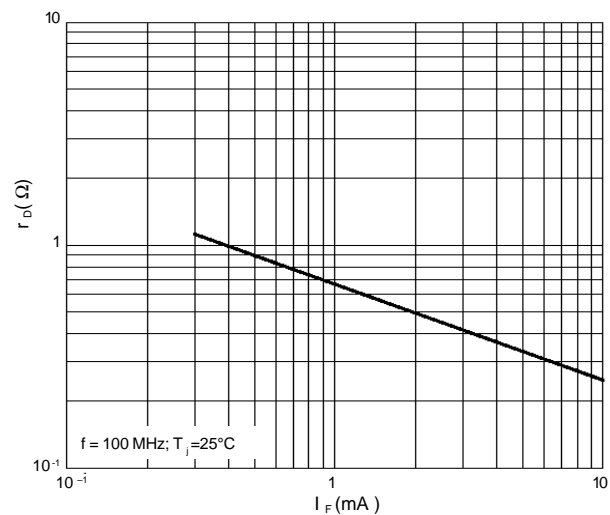


Fig.2 Diode forward resistance as a function of forward current; typical values.