



BF1212; BF1212R; BF1212WR

DATA SHEET

BF1212; BF1212R; BF1212WR

FEATURES

- Short channel transistor with high forward transfer admittance to input capacitance ratio
- Low noise gain controlled amplifier
- Excellent low frequency noise performance
- Partly internal self-biasing circuit to ensure good cross-modulation performance during AGC and good DC stabilization.

APPLICATIONS

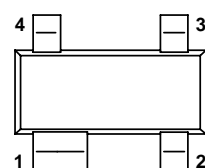
- Gain controlled low noise VHF and UHF amplifiers for 5 V digital and analog television tuner applications.

DESCRIPTION

Enhancement type N-channel field-effect transistor with source and substrate interconnected. Integrated diodes between gates and source protect against excessive input voltage surges. The BF1212, BF1212R and BF1212WR are encapsulated in the SOT143B, SOT143R and SOT343R plastic packages respectively.

PINNING

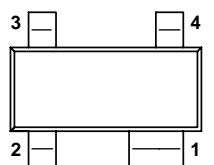
PIN	DESCRIPTION
1	source
2	drain
3	gate 2
4	gate 1



Top view MSB014

BF1212; marking code: LGp

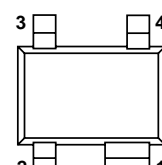
Fig.1 Simplified outline (SOT143B).



Top view MSB035

BF1212R; marking code: LKp

Fig.2 Simplified outline (SOT143R).



Top view MSB842

BF1212WR; marking code: ML

Fig.3 Simplified outline (SOT343R).

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_{DS}	drain-source voltage		–	–	6	V
I_D	drain current		–	–	30	mA
P_{tot}	total power dissipation		–	–	180	mW
$ y_{fs} $	forward transfer admittance		28	33	43	mS
C_{ig1-ss}	input capacitance at gate 1		–	1.7	2.2	pF
C_{rss}	reverse transfer capacitance	$f = 1 \text{ MHz}$	–	15	30	fF
F	noise figure	$f = 800 \text{ MHz}$	–	1.1	1.8	dB
X_{mod}	cross-modulation	input level for $k = 1 \%$ at 40 dB AGC	100	104	–	dB μ V
T_j	junction temperature		–	–	150	°C

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CAUTION

This product is supplied in anti-static packing to prevent damage caused by electrostatic discharge during transport and handling. For further information, refer to TY specs.: SNW-EQ-608, SNW-FQ-302A and SNW-FQ-302B.

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BF1212	–	plastic surface mounted package; 4 leads	SOT143B
BF1212R	–	plastic surface mounted package; reverse pinning; 4 leads	SOT143R
BF1212WR	–	plastic surface mounted package; reverse pinning; 4 leads	SOT343R

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{DS}	drain-source voltage		–	6	V
I_D	drain current (DC)		–	30	mA
I_{G1}	gate 1 current		–	±10	mA
I_{G2}	gate 2 current		–	±10	mA
P_{tot}	total power dissipation				
	BF1212; BF1212R	$T_s \leq 116\text{ °C}$; note 1	–	180	mW
	BF1212WR	$T_s \leq 122\text{ °C}$; note 1	–	180	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C

Note

- T_s is the temperature of the soldering point of the source lead.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-s}$	thermal resistance from junction to soldering point		
	BF1212; BF1212R	185	K/W
	BF1212WR	155	K/W