

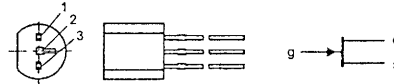
N-channel silicon field-effect transistors

**BF245A; BF245B;
 BF245C**

BF 245 A, B, and C are N-channel junction field-effect transistors in plastic package similar to TO 92 (10 A 3 DIN 41868). They are particularly suitable for use in dc, AF and RF amplifiers.

PINNING

PIN	SYMBOL	DESCRIPTION
1	d	drain
2	s	source
3	g	gate



Simplified outline (TO-92 variant) and symbol.

Maximum ratings

Drain-source voltage	$\pm V_{DS}$	30	V
Drain-gate voltage ($I_G = 0$)	$+V_{DG}$	30	V
Gate-source voltage ($I_D = 0$)	$-V_{GS}$	30	V
Drain current	I_D	25	mA
Gate current	I_G	10	mA
Junction temperature	T_J	150	$^{\circ}C$
Storage temperature range	T_{stg}	-65 to +150	$^{\circ}C$
Total power dissipation ($T_{amb} \leq 75^{\circ}C$) ¹	P_{tot}	300	mW

Thermal resistance

Junction to ambient air	R_{thJA}	≤ 250	$ K/W^1)$
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Static characteristics ($T_J = 25^{\circ}C$)

Gate cutoff current

($-V_{GS} = 20 V, V_{DS} = 0$)

($-V_{GS} = 20 V, V_{DS} = 0, T_J = 125^{\circ}C$)

Gate-source breakdown voltage

($-I_G = 1 \mu A, V_{DS} = 0$)

Drain-source short-circuit current

($V_{DS} = 15 V, V_{GS} = 0$)

Gate-source voltage

($V_{DS} = 15 V, I_D = 200 \mu A$)

Gate-source pinch-off voltage

($V_{DS} = 15 V, I_D = 10 nA$)

$-I_{GS}$	≤ 5	nA
$-I_{GS}$	≤ 500	nA
$-V_{(BR)GS}$	≥ 30	V
BF 245 A: I_{DS}	2.0 to 6.5	mA ²⁾
BF 245 B: I_{DS}	6 to 15	mA
BF 245 C: I_{DS}	12 to 25	mA
BF 245 A: $-V_{GS}$	0.4 to 2.2	V ²⁾
BF 245 B: $-V_{GS}$	1.6 to 3.8	V
BF 245 C: $-V_{GS}$	3.2 to 7.5	V
$-V_P$	0.5 to 8.0	V

Dynamic characteristics ($T_{amb} = 25^{\circ}C$)

Four-pole characteristics

($V_{DS} = 15 V, V_{GS} = 0, f = 1 kHz$)

($V_{DS} = 15 V, V_{GS} = 0, f = 200 MHz$)

($V_{DS} = 20 V, -V_{GS} = 1 V, f = 1 MHz$)

$ Y_{21e} $	3.0 to 6.5	mS
$ Y_{22e} $	25	μS
g_{11}	250	μS
$ Y_{21e} $	6	mS
g_{22e}	40	μS
C_{11e}	4.0	pF
C_{12e}	1.1	pF
C_{22e}	1.6	pF

Cutoff frequency of

short-circuit forward transfer admittance¹⁾

($V_{DS} = 15 V, V_{GS} = 0$)

Noise figure

($V_{DS} = 15 V, V_{GS} = 0, R_G = 1 k\Omega, f = 100 MHz, T_{amb} = 25^{\circ}C$)

f_{y21e}	700	MHz
NF	1.5	dB