



# THE DATASHEET OF BF256A



# BF256A

BF256A is a Preferred Device

## JFET - General Purpose

### N-Channel

N-Channel Junction Field Effect Transistor designed for VHF and UHF applications.

- Low Cost TO-92 Type Package
- Forward Transfer Admittance,  $Y_{fs} = 4.5$  mmhos (Min)
- Transfer Capacitance –  $C_{RSS} = 0.7$  (Typ)
- Power Gain at  $f = 800$  MHz, Typ. = 11 dB

#### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	30	Vdc
Drain-Gate Voltage	$V_{DG}$	30	Vdc
Gate-Source Voltage	$V_{GS}$	30	Vdc
Forward Gate Current	$I_{G(f)}$	10	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	360 2.88	mW mW/ $^\circ\text{C}$
Operating and Storage Channel Temperature Range	$T_{channel}$ , $T_{stg}$	-65 to +150	$^\circ\text{C}$

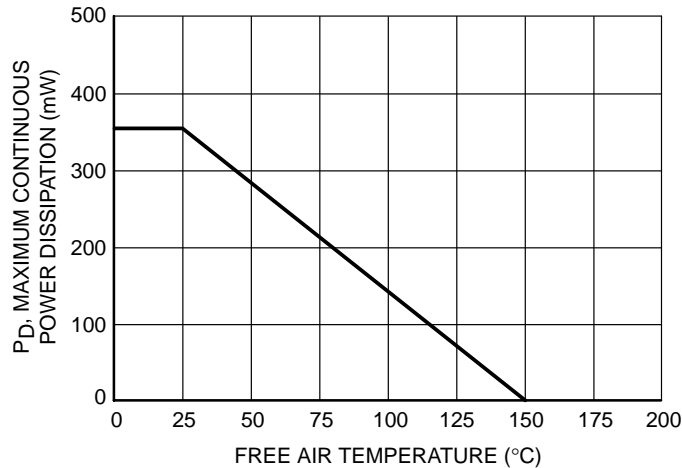
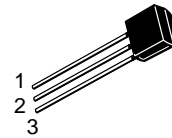
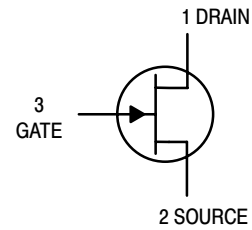


Figure 1. Power Derating Curve



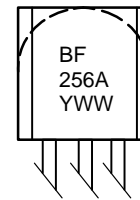
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TO-92  
CASE 29  
STYLE 5

#### MARKING DIAGRAMS



Y = Year  
WW = Work Week

#### ORDERING INFORMATION

Device	Package	Shipping
BF256A	TO-92	5000 Units/Box

Preferred devices are recommended choices for future use and best overall value.

# BF256A

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
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### OFF CHARACTERISTICS

Gate-Source Breakdown Voltage	(-I <sub>G</sub> = -1.0 μAdc, V <sub>DS</sub> = 0)	-V <sub>(BR)GSS</sub>	30	-	-	Vdc
Gate-Source Voltage	(V <sub>DS</sub> = 15 Vdc, I <sub>D</sub> = 200 μA)	-V <sub>GS</sub>	0.5	-	7.5	Vdc
Gate Reverse Current	(-V <sub>GS</sub> = 20 Vdc, V <sub>DS</sub> = 0)	-I <sub>GSS</sub>	-	-	5.0	nAdc

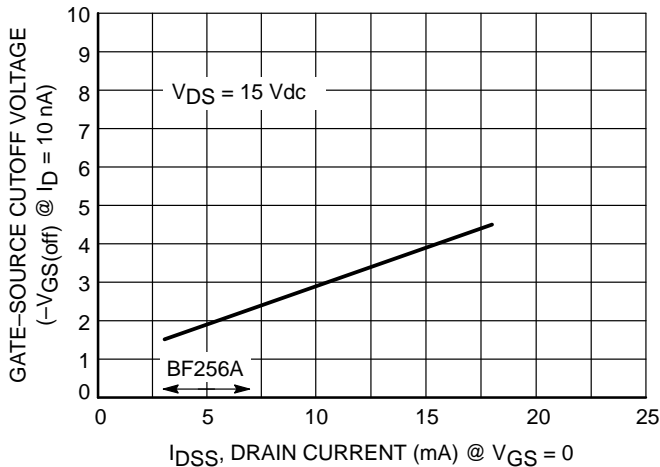
### ON CHARACTERISTICS

Zero-Gate-Voltage Drain Current (Note 1.)	(V <sub>DS</sub> = 15 Vdc, V <sub>GS</sub> = 0)	I <sub>DSS</sub>	3.0	-	7.0	mAdc
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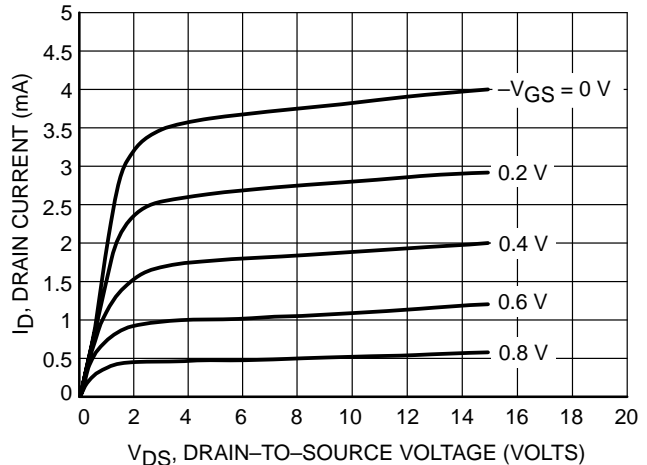
### SMALL-SIGNAL CHARACTERISTICS

Forward Transfer Admittance	(V <sub>DS</sub> = 15 Vdc, V <sub>GS</sub> = 0, f = 1 kHz)	Y <sub>fs</sub>	4.5	5.0	-	mmhos
Reverse Transfer Capacitance	(V <sub>DS</sub> = 20 Vdc, -V <sub>GS</sub> = 1 Vdc, f = 1 MHz)	C <sub>rSS</sub>	-	0.7	-	pF
Output Capacitance	(V <sub>DS</sub> = 20 Vdc, V <sub>GS</sub> = 0, f = 1 MHz)	C <sub>oss</sub>	-	1.0	-	pF
Cut-Off Frequency (Note 2.)	(V <sub>DS</sub> = 15 Vdc, V <sub>GS</sub> = 0)	f <sub>gfs</sub>	-	1000	-	MHz

1. Pulse Test: Pulse Width = 300 μs, Duty Cycle = 2.0%.
2. The frequency at which g<sub>fs</sub> is 0.7 of its value at 1 KHz.



**Figure 2. Correlation Between  
-V<sub>GS(off)</sub> and I<sub>DSS</sub>**



**Figure 3. Drain Current versus  
Drain-to-Source Voltage**

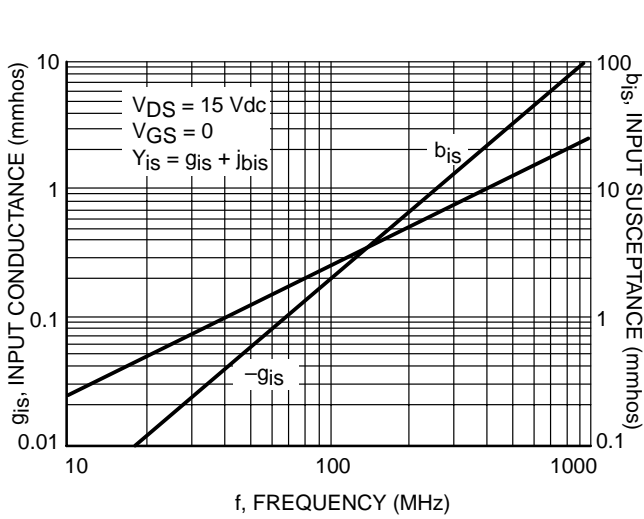


Figure 4. Input Admittance versus Frequency

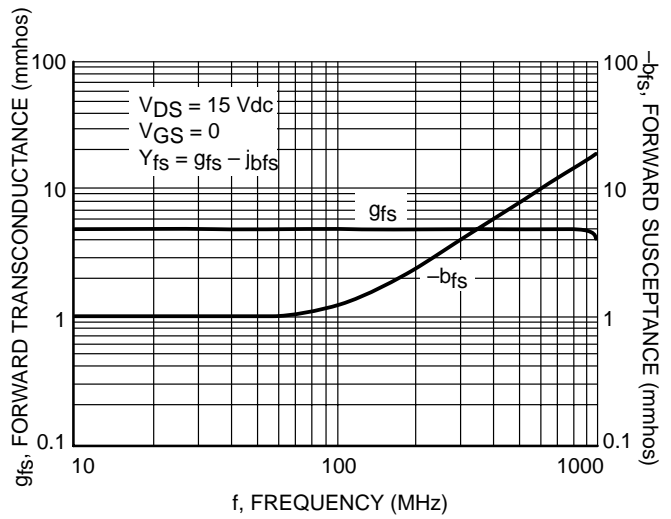


Figure 5. Forward Transfer Admittance versus Frequency

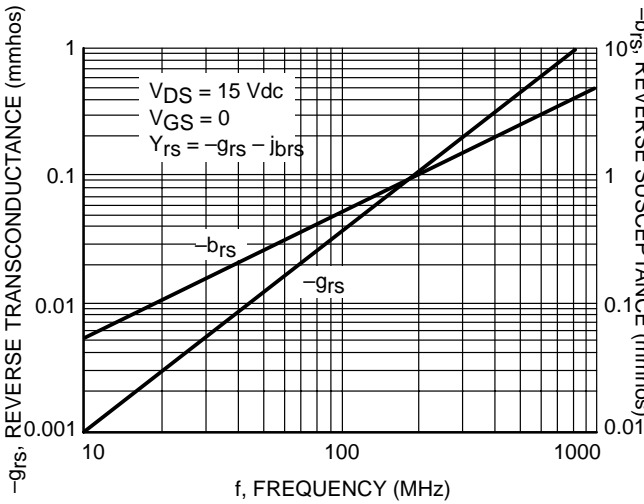


Figure 6. Reverse Transfer Admittance versus Frequency

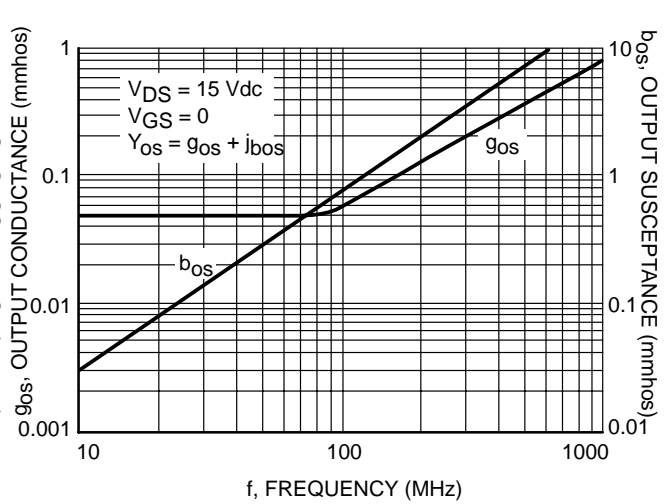


Figure 7. Output Admittance versus Frequency

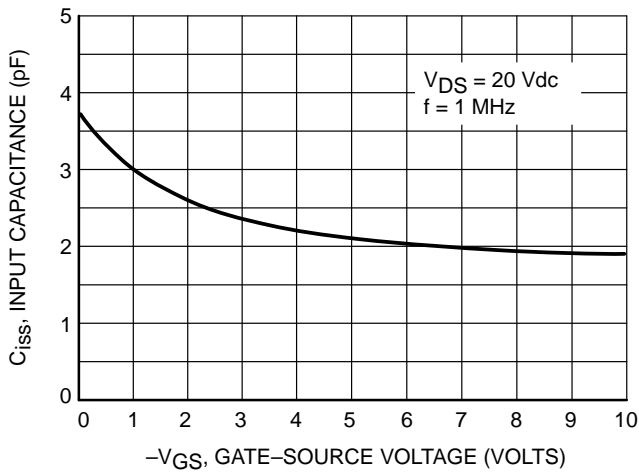


Figure 8. Input Capacitance versus Gate-Source Voltage

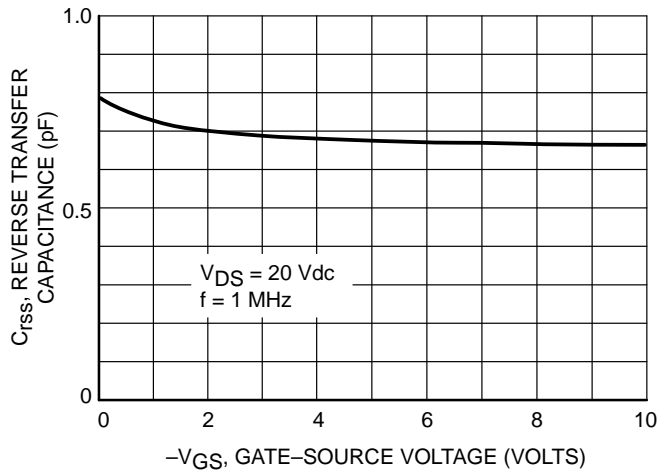
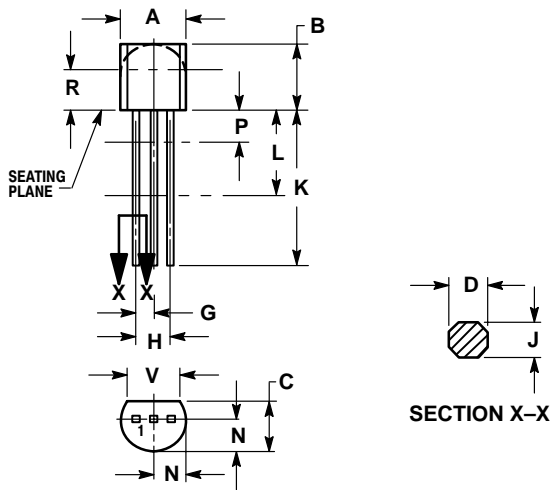


Figure 9. Reverse Transfer Capacitance versus Gate-Source Voltage

# BF256A

## PACKAGE DIMENSIONS


### TO-92 (TO-226) CASE 29-11 ISSUE AL



#### NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.175	0.205	4.45	5.20
B	0.170	0.210	4.32	5.33
C	0.125	0.165	3.18	4.19
D	0.016	0.021	0.407	0.533
G	0.045	0.055	1.15	1.39
H	0.095	0.105	2.42	2.66
J	0.015	0.020	0.39	0.50
K	0.500	---	12.70	---
L	0.250	---	6.35	---
N	0.080	0.105	2.04	2.66
P	---	0.100	---	2.54
R	0.115	---	2.93	---
V	0.135	---	3.43	---

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