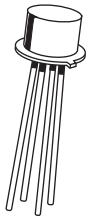
BFX89
BFY90

NPN SILICON
RF TRANSISTORS



JEDEC TO-72 CASE

Central™
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR BFX89 and BFY90 are Silicon NPN Epitaxial Planar Transistors mounted in a hermetically sealed package designed for VHF/UHF amplifier, oscillator, and converter applications.

MARKING CODE: FULL PART NUMBER

MAXIMUM RATINGS: (T_A=25°C)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage (R_{BE}≤50Ω)	V_{CER}	30	V
Collector-Emitter Voltage	V_{CEO}	15	V
Emitter-Base Voltage	V_{EBO}	2.5	V
Collector Current	I_C	25	mA
Peak Collector Current (f ≥ 1 MHz)	I_{CM}	50	mA
Power Dissipation	P_D	200	mW
Power Dissipation (T_C=25°C)	P_D	300	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +200	°C
Thermal Resistance	Θ_{JA}	875	°C/W
Thermal Resistance	Θ_{JC}	583	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

		BFX89			BFY90			
SYMBOL	**TEST CONDITIONS**	**MIN**	**TYP**	**MAX**	**MIN**	**TYP**	**MAX**	**UNITS**
I_{CBO}	V_{CB}=15V			10			10	nA
BV_{CBO}	I_C=10μA	30			30			V
BV_{CER}	I_C=1.0mA, R_{BE}=50Ω	30			30			V
BV_{CEO}	I_C=1.0mA	15			15			V
BV_{EBO}	I_E=10μA	2.5			2.5			V
h_{FE}	V_{CE}=1.0V, I_C=2.0mA	20		150	25		150	
h_{FE}	V_{CE}=1.0V, I_C=25mA	20		125	20		125	
f_T	V_{CE}=5.0V, I_C=2.0mA, f=500MHz		1.0		1.0	1.1		GHz
f_T	V_{CE}=5.0V, I_C=25mA, f=500MHz		1.2		1.3	1.4		GHz
C_{ob}	V_{CB}=10V, I_E=0, f=1.0MHz			1.7			1.5	pF
C_{re}	V_{CE}=5.0V, I_C=2.0mA, f=1.0MHz		0.6			0.6	0.8	pF

R3 (20-March 2006)

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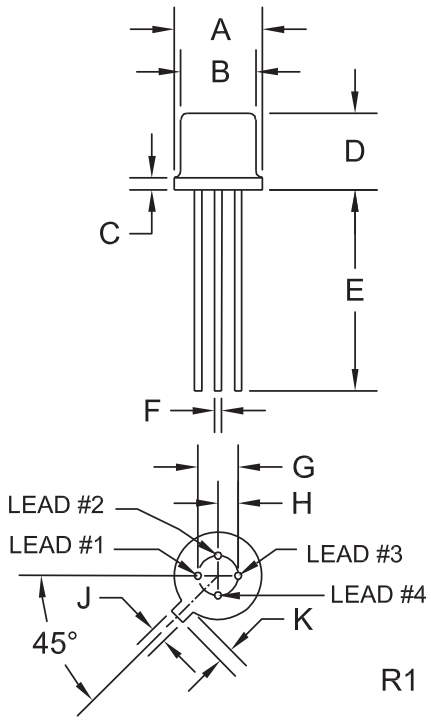
BFX89
BFY90

NPN SILICON
RF TRANSISTORS

ELECTRICAL CHARACTERISTICS (CONTINUED): (T_A=25°C unless otherwise noted)

		BFX89			BFY90			
SYMBOL	**TEST CONDITIONS**	**MIN**	**TYP**	**MAX**	**MIN**	**TYP**	**MAX**	**UNITS**
G_{pe}	V_{CE}=10V, I_C=8mA, f=200MHz		19	22				dB
G_{pe}	V_{CE}=10V, I_C=8mA, f=800MHz			7.0				dB
G_{pe}	V_{CE}=10V, I_C=14mA, f=200MHz				21	23		dB
G_{pe}	V_{CE}=10V, I_C=14mA, f=800MHz					8.0		dB
NF	V_{CE}=5.0V, I_C=2.0mA, f=100kHz						4.0	dB
NF	V_{CE}=5.0V, I_C=2.0mA, f=200MHz		3.3	4.0		2.5	3.5	dB
NF	V_{CE}=5.0V, I_C=2.0mA, f=500MHz, R_G=50Ω			6.5			5.0	dB
NF	V_{CE}=5.0V, I_C=2.0mA, f=800MHz		7.0			5.5		dB
P_o	V_{CE}=10V, I_C=8mA, f=205MHz		6.0					mW
P_o	V_{CE}=10V, I_C=14mA, f=205MHz				10	12		mW

JEDEC TO-72 CASE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A (DIA)	0.209	0.230	5.31	5.84
B (DIA)	0.175	0.195	4.45	4.95
C	-	0.030	-	0.76
D	0.170	0.210	4.32	5.33
E	0.500	-	12.70	-
F (DIA)	0.016	0.019	0.41	0.48
G (DIA)	0.100		2.54	
H	0.050		1.27	
J	0.036	0.046	0.91	1.17
K	0.028	0.048	0.71	1.22

TO-72 (REV: R1)

LEAD CODE:
1) EMITTER
2) BASE
3) COLLECTOR
4) CASE

R3 (20-March 2006)