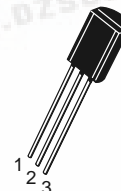
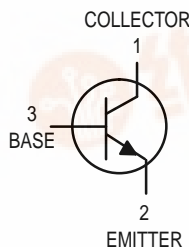


AM/FM Transistor

NPN Silicon

BF240**CASE 29-04, STYLE 21**
TO-92 (TO-226AA)**MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	40	Vdc
Collector-Base Voltage	V_{CBO}	40	Vdc
Emitter-Base Voltage	V_{EBO}	4.0	Vdc
Collector Current — Continuous	I_C	25	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	350 2.8	mW mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	1.0 8.0	Watt mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	125	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage ⁽¹⁾ ($I_C = 1.0\text{ mAdc}$, $I_B = 0$)	$V_{(BR)CEO}$	40	—	—	Vdc
Collector-Base Breakdown Voltage ($I_C = 100\text{ }\mu\text{Adc}$, $I_E = 0$)	$V_{(BR)CBO}$	40	—	—	Vdc
Emitter-Base Breakdown Voltage ($I_E = 10\text{ }\mu\text{Adc}$, $I_C = 0$)	$V_{(BR)EBO}$	4.0	—	—	Vdc
Collector Cutoff Current ($V_{CB} = 20\text{ Vdc}$, $I_E = 0$)	I_{CBO}	—	—	100	nAdc

ON CHARACTERISTICS

DC Current Gain ($I_C = 1.0\text{ mAdc}$, $V_{CE} = 10\text{ Vdc}$)	h_{FE}	65	—	220	—
Base-Emitter On Voltage ($I_C = 1.0\text{ mAdc}$, $V_{CE} = 10\text{ Vdc}$)	$V_{BE(on)}$	0.65	0.7	0.74	Vdc

SMALL-SIGNAL CHARACTERISTICS

Current-Gain — Bandwidth Product ($I_C = 1.0\text{ mAdc}$, $V_{CE} = 10\text{ Vdc}$, $f = 100\text{ MHz}$)	f_T	—	600	—	MHz
Common Emitter Feedback Capacitance ($V_{CB} = 10\text{ Vdc}$, $I_E = 0$, $f = 1.0\text{ MHz}$)	C_{re}	—	0.28	0.34	pF

1. Pulse Test: Pulse Width $\leq 300\text{ }\mu\text{s}$, Duty Cycle $\leq 2.0\%$.

BF240

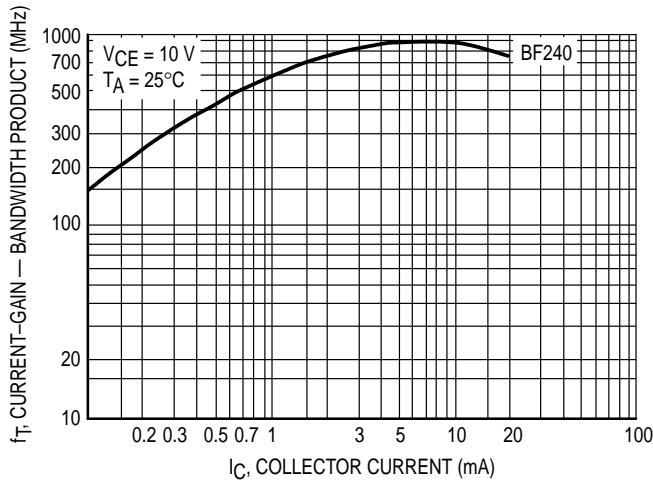


Figure 1. Current-Gain — Bandwidth Product

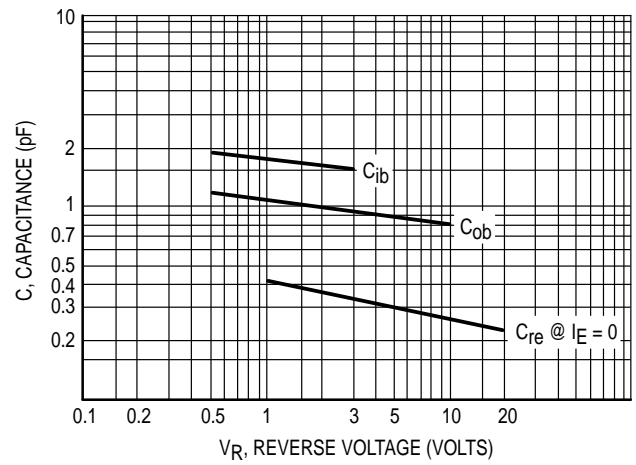


Figure 2. Capacitances

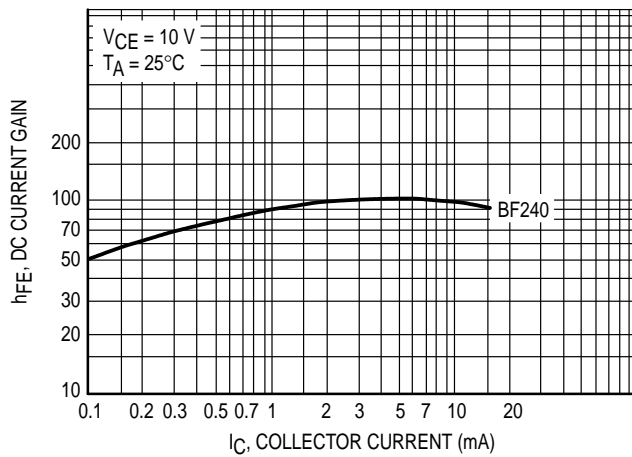


Figure 3. DC Current Gain

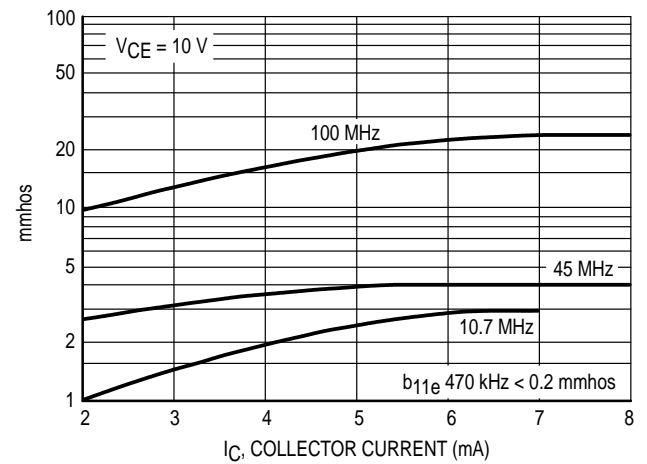


Figure 4. b11e

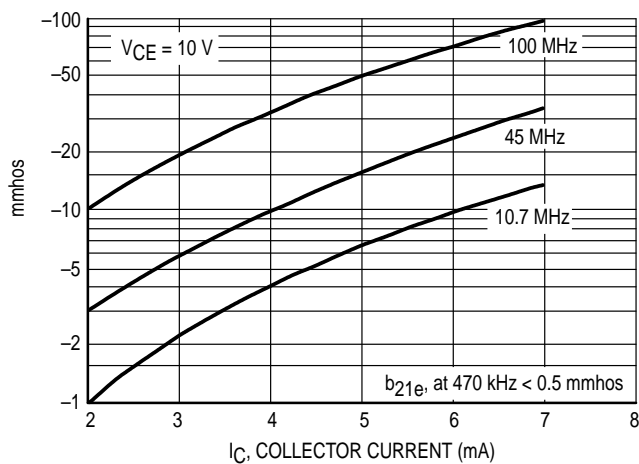


Figure 5. b21e

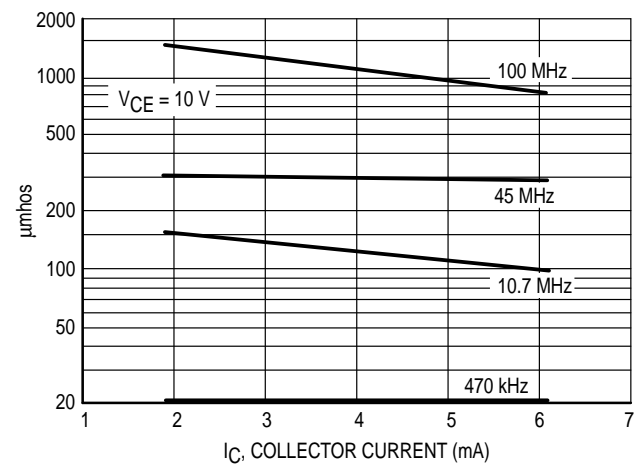


Figure 6. b22e (boe)

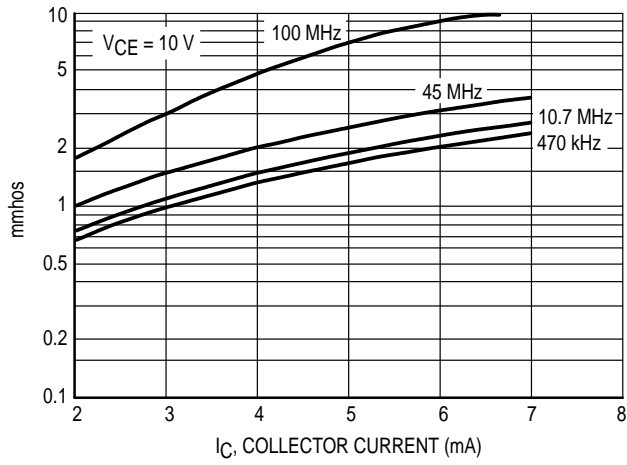


Figure 7. g11e (gie)

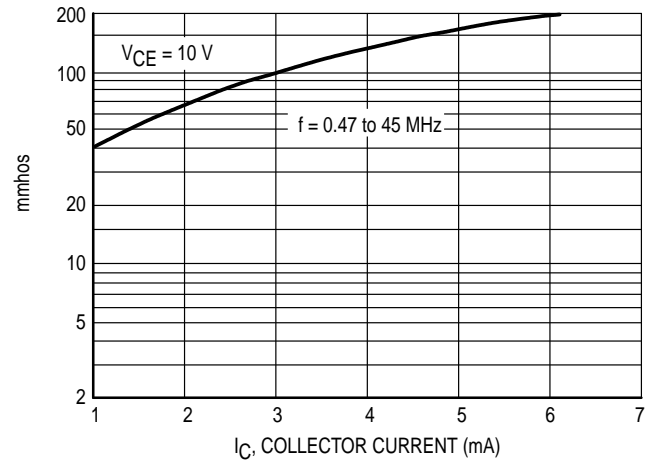


Figure 8. g21e (Yfe)

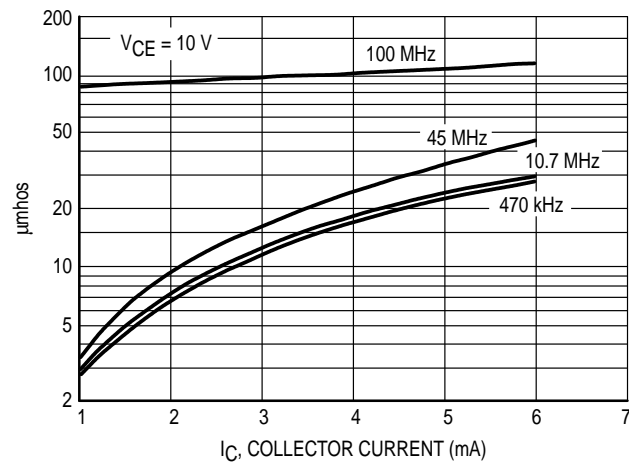
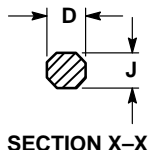
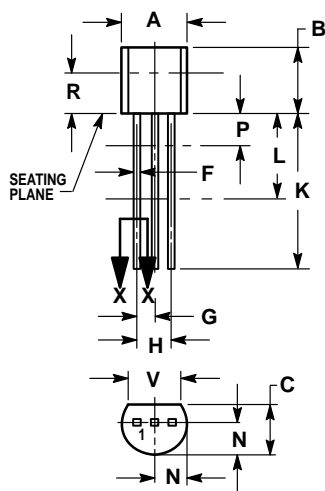


Figure 9. g22e (goe)

PACKAGE DIMENSIONS



**CASE 029-04
(TO-226AA)
ISSUE AD**


NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. DIMENSION F APPLIES BETWEEN P AND L. DIMENSION D AND J APPLY BETWEEN L AND K MINIMUM. 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	0.022	0.41	0.55
F	0.016	0.019	0.41	0.48
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	—

STYLE 21:

1. COLLECTOR
2. EMITTER
3. BASE

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How to reach us:

USA/EUROPE/Locations Not Listed: Motorola Literature Distribution;
P.O. Box 20912; Phoenix, Arizona 85036. 1-800-441-2447 or 602-303-5454

MFAX: RMFA00@email.sps.mot.com – TOUCHTONE 602-244-6609
INTERNET: <http://Design-NET.com>

JAPAN: Nippon Motorola Ltd.; Tatsumi-SPD-JLDC, 6F Seibu-Butsuryu-Center,
3-14-2 Tatsumi Koto-Ku, Tokyo 135, Japan. 03-81-3521-8315

ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park,
51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852-26629298