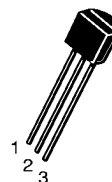
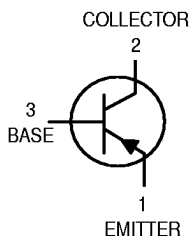


Amplifier Transistors

PNP Silicon

LA733P



CASE 29-11, STYLE 14
TO-92 (TO-226AA)

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector–Emitter Voltage	V_{CEO}	–50	Vdc
Collector–Base Voltage	V_{CBO}	–60	Vdc
Emitter–Base Voltage	V_{EBO}	–5.0	Vdc
Collector Current — Continuous	I_C	–100	mA _{dc}
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	Watts 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	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	125	$^\circ\text{C}/\text{W}$

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

Characteristic	Symbol	Min	Max	Unit
Collector–Emitter Breakdown Voltage ($I_C = -1.0 \text{ mA}_{dc}, I_E = 0$)	$V_{(BR)CEO}$	–50	—	Vdc
Collector–Base Breakdown Voltage ($I_C = -10 \mu\text{A}_{dc}, I_E = 0$)	$V_{(BR)CBO}$	–60	—	Vdc
Emitter–Base Breakdown Voltage ($I_E = -10 \mu\text{A}_{dc}, I_C = 0$)	$V_{(BR)EBO}$	–5.0	—	Vdc
Collector–Emitter Leakage Current ($V_{CB} = -60 \text{ Vdc}$)	I_{CBO}	—	–100	nA _{dc}
Emitter–Base Leakage Current ($V_{EB} = -5.0 \text{ Vdc}, I_C = 0$)	I_{EBO}	—	–100	nA _{dc}

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

Characteristic	Symbol	Min	Max	Unit
ON CHARACTERISTICS				
DC Current Gain ($I_C = -1.0\text{ mA}$, $V_{CE} = -6.0\text{ Vdc}$)	h_{FE}	200	400	—
Collector–Emitter Saturation Voltage ($I_C = -10\text{ mA}$, $I_B = -1.0\text{ mA}$)	$V_{CE(sat)}$	—	–0.3	Vdc
Base–Emitter Saturation Voltage ($I_C = -10\text{ mA}$, $I_B = -1.0\text{ mA}$)	$V_{BE(sat)}$	—	–0.9	Vdc
Base–Emitter On Voltage ($I_C = -1.0\text{ mA}$, $V_{CE} = -6.0\text{ Vdc}$)	$V_{BE(on)}$	–0.55	–0.68	Vdc
DYNAMIC CHARACTERISTICS				
Current–Gain — Bandwidth Product ($I_C = -10\text{ mA}$, $V_{CE} = -6.0\text{ Vdc}$, $f = 20\text{ MHz}$)	f_T	100	450	MHz
Common–Base Output Capacitance ($V_{CB} = -60\text{ Vdc}$, $I_C = 0$, $f = 1.0\text{ MHz}$)	C_{ob}	—	7.0	pF
Noise Figure ($I_C = -0.3\text{ mA}$, $V_{CE} = -6.0\text{ Vdc}$, $R_G = 10\text{ k}\Omega$, $f = 100\text{ Hz}$)	NF	—	18	dB
Small–Signal Current Gain ($I_C = -2.0\text{ mA}$, $V_{CE} = -5.0\text{ Vdc}$, $f = 1.0\text{ kHz}$)	h_{fe}	60	—	—

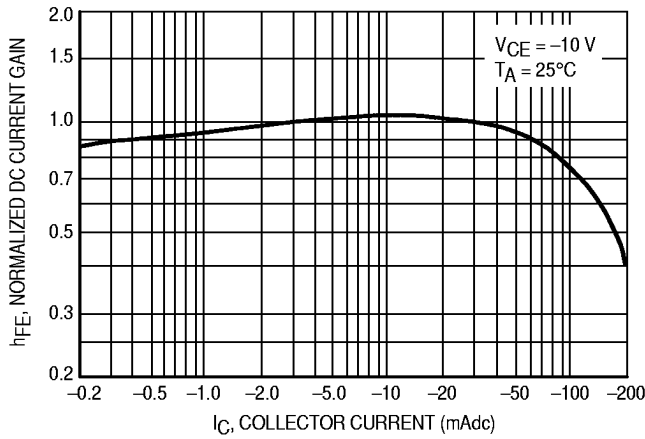


Figure 1. Normalized DC Current Gain

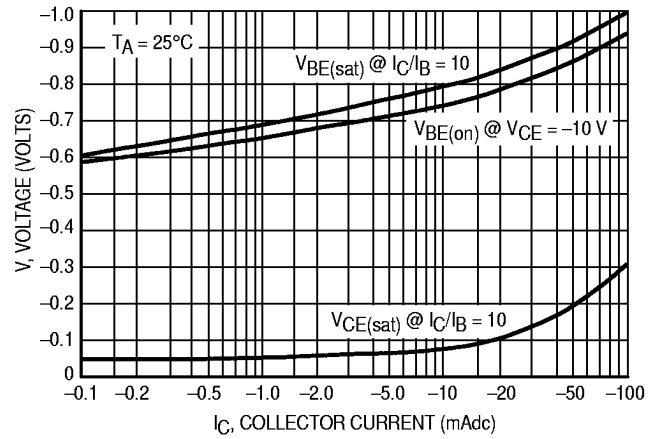


Figure 2. "Saturation" and "On" Voltages

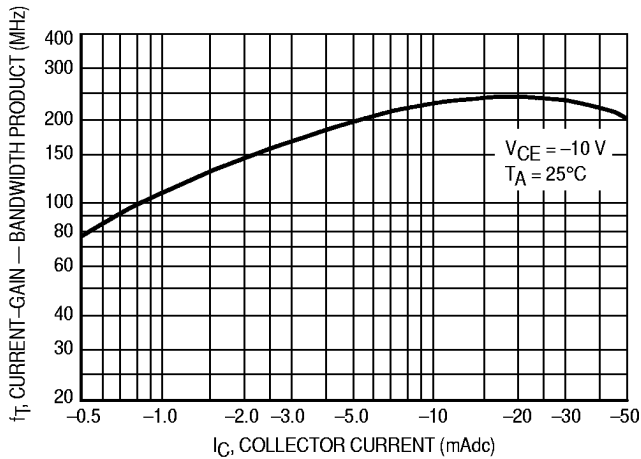


Figure 3. Current-Gain — Bandwidth Product

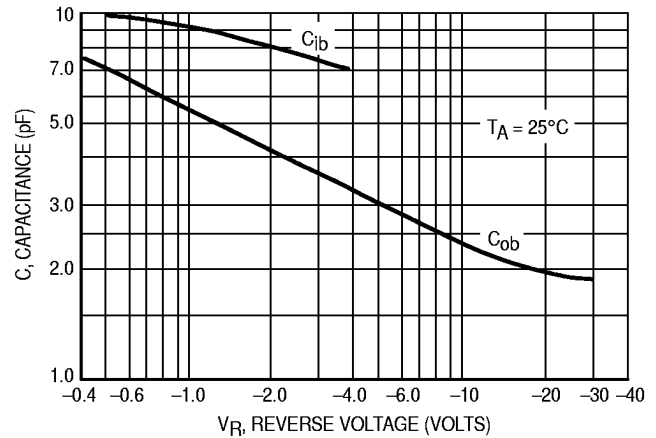


Figure 4. Capacitances

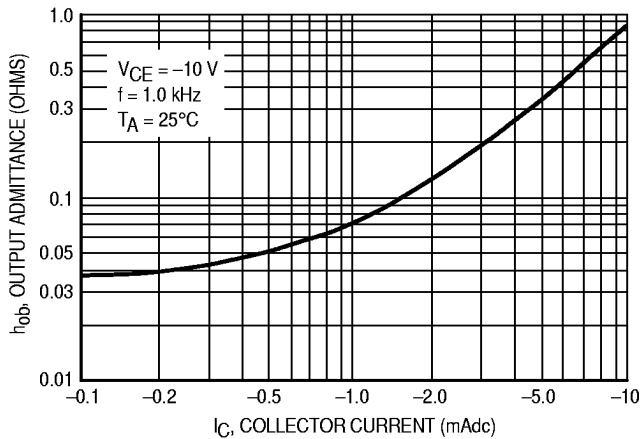


Figure 5. Output Admittance

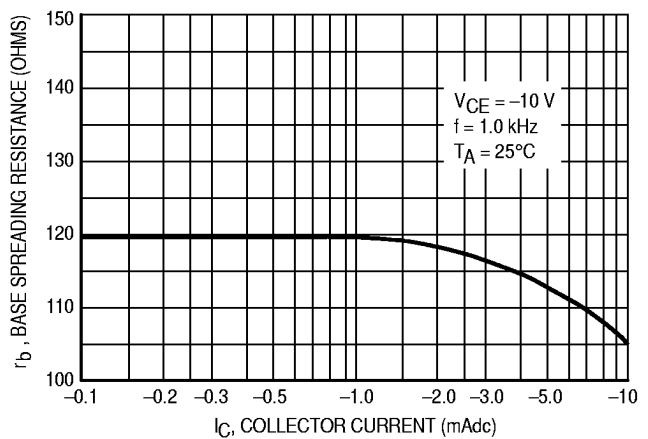
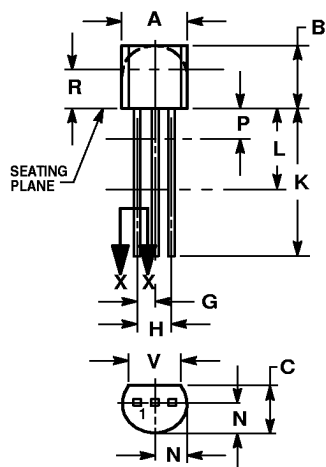
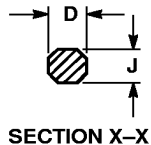


Figure 6. Base Spreading Resistance

PACKAGE DIMENSIONS



STYLE 14:
PIN 1. EMITTER
2. COLLECTOR
3. BASE




CASE 029-11
(TO-226AA)
ISSUE AJ

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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