

LA733P, LA733Q

Amplifier Transistors

PNP Silicon



ON Semiconductor™

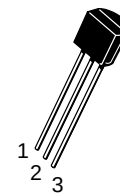
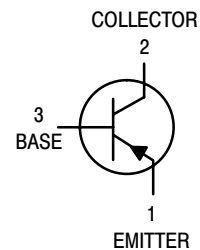
<http://onsemi.com>

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	-48	Vdc
Collector-Base Voltage	V_{CBO}	-60	Vdc
Emitter-Base Voltage	V_{EBO}	-5.0	Vdc
Collector Current – Continuous	I_C	-100	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	625 5.0	mW mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	1.5 12	Watts mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

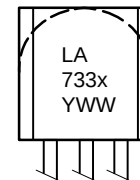
THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	200	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	83.3	$^\circ\text{C/W}$



TO-92
CASE 29
STYLE 14

MARKING DIAGRAMS



LA733x = Specific Device Code
x = P or Q
Y = Year
WW = Work Week

ORDERING INFORMATION

Device	Package	Shipping
LA733P	TO-92	5000 Units/Box
LA733Q	TO-92	5000 Units/Box

LA733P, LA733Q

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

Characteristic	Symbol	Min	Typ	Max	Unit
Collector–Emitter Breakdown Voltage (I _C = –1.0 mA _{dc} , I _B = 0)	V _{(BR)CEO}	–48	–	–	V _{dc}
Collector–Base Breakdown Voltage (I _C = –10 μA _{dc} , I _E = 0)	V _{(BR)CBO}	–60	–	–	V _{dc}
Emitter–Base Breakdown Voltage (I _E = –10 μA _{dc} , I _C = 0)	V _{(BR)EBO}	–5.0	–	–	V _{dc}
Collector–Base Leakage Current (V _{CB} = –60 V)	I _{CBO}	–	–	–100	nA _{dc}
Emitter–Base Leakage Current (V _{EB} = –5.0 V, I _C = 0)	I _{EBO}	–	–	–100	nA _{dc}
Collector–Emitter Leakage Current (V _{CE} = –50 V)	I _{CEO}	–	–	–1.0	μA

ON CHARACTERISTICS

DC Current Gain (I _C = –1.0 mA _{dc} , V _{CE} = –6.0 V _{dc})	LA733P LA733Q	h _{FE}	200 135	– –	400 270	–
Collector–Emitter Saturation Voltage (I _C = –10 mA _{dc} , I _B = –1.0 mA _{dc})		V _{CE(sat)}	–	–	–0.3	V _{dc}
Base–Emitter Saturation Voltage (I _C = –10 mA _{dc} , I _B = –1.0 mA _{dc})		V _{BE(sat)}	–	–	–0.9	V _{dc}
Base–Emitter On Voltage (I _C = –1.0 mA _{dc} , V _{CE} = –6.0 V _{dc})		V _{BE(on)}	–0.55	–	–0.68	V _{dc}

DYNAMIC CHARACTERISTICS

Current–Gain – Bandwidth Product (I _C = –10 mA _{dc} , V _{CE} = –6.0 V _{dc} , f = 20 MHz)		f _T	100	–	450	MHz
Common–Base Output Capacitance (V _{CB} = –60 V _{dc} , I _C = 0, f = 1.0 MHz)		C _{ob}	–	–	7.0	pF
Noise Figure (I _C = –0.3 mA _{dc} , V _{CE} = –6.0 V _{dc} , R _G = 10 kΩ, f = 100 MHz)		NF	–	–	18	dB

LA733P, LA733Q

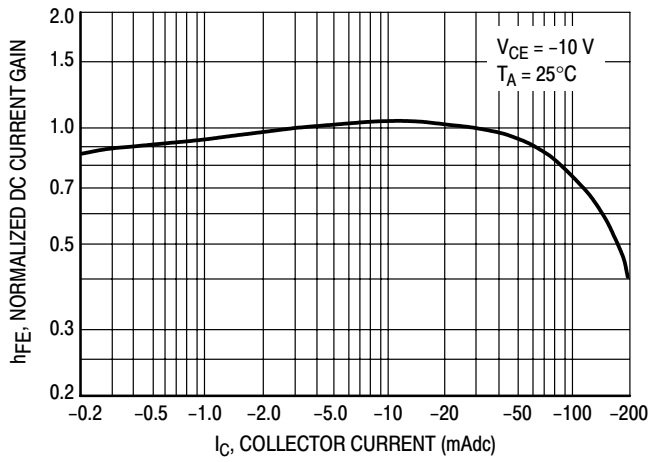


Figure 1. Normalized DC Current Gain

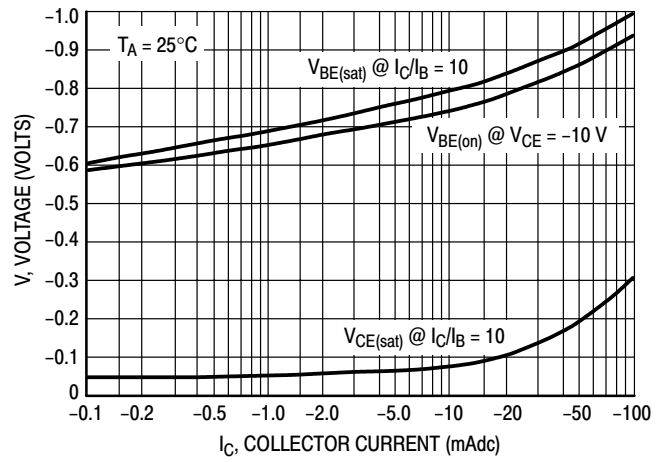


Figure 2. "Saturation" and "On" Voltages

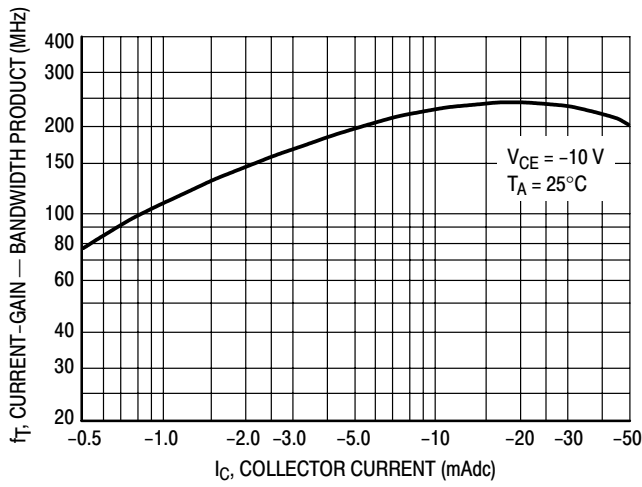


Figure 3. Current-Gain — Bandwidth Product

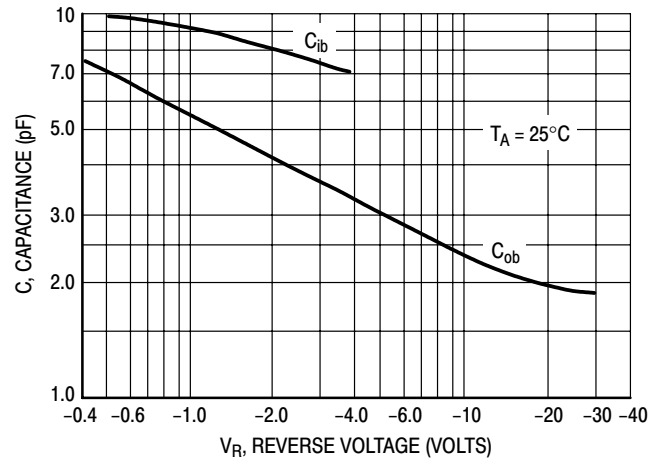


Figure 4. Capacitances

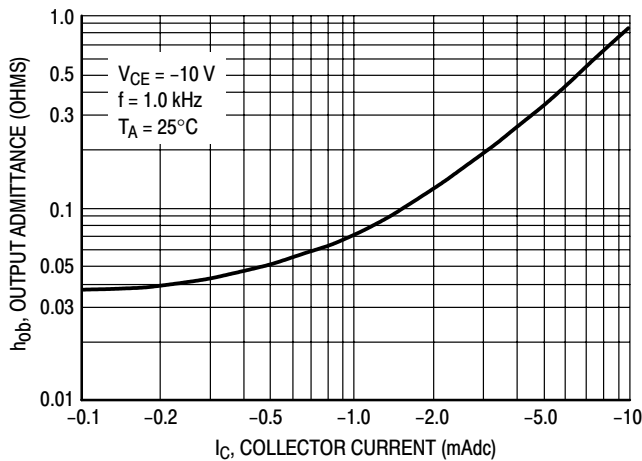


Figure 5. Output Admittance

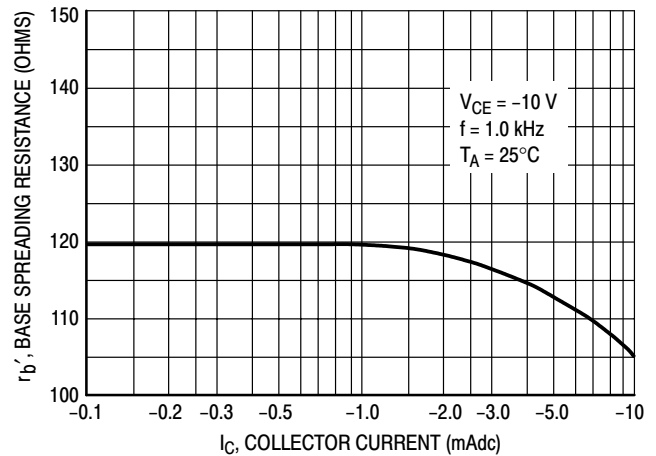
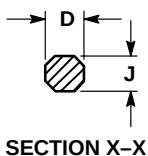
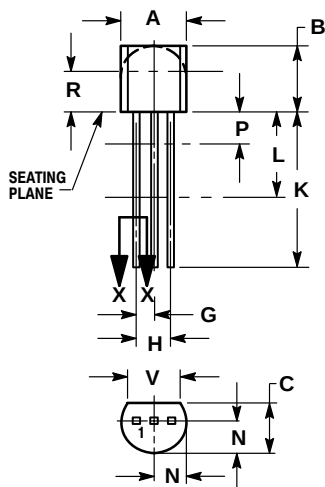


Figure 6. Base Spreading Resistance

LA733P, LA733Q

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	---

STYLE 14:

1. EMITTER
2. COLLECTOR
3. BASE

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