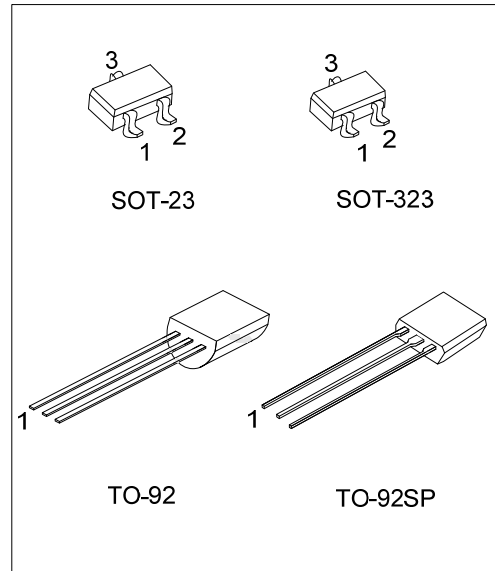




2SA733

PNP SILICON TRANSISTOR

LOW FREQUENCY AMPLIFIER PNP EPITAXIAL SILICON TRANSISTOR



■ **DESCRIPTION**

The UTC **2SA733** is a low frequency amplifier.

■ **FEATURES**

- * Collector-emitter voltage:
BV_{CEO}=-50V
- * Collector current up to -150mA
- * High h_{FE} linearity
- * Complimentary to 2SC945

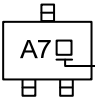
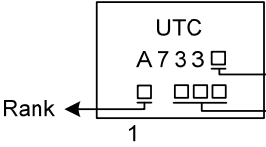
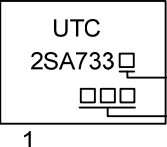
■ **ORDERING INFORMATION**

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SA733L-x-AE3-R	2SA733G-x-AE3-R	SOT-23	B	E	C	Tape Reel
2SA733L-x-AL3-R	2SA733G-x-AL3-R	SOT-323	B	E	C	Tape Reel
2SA733L-x-T92-B	2SA733G-x-T92-B	TO-92	E	C	B	Tape Box
2SA733L-x-T92-K	2SA733G-x-T92-K	TO-92	E	C	B	Bulk
2SA733L-x-T9S-B	2SA733G-x-T9S-B	TO-92SP	E	C	B	Tape Box
2SA733L-x-T9S-K	2SA733G-x-T9S-K	TO-92SP	E	C	B	Bulk

Note: Pin Assignment: B: Base E: Emitter C: Collector

<p>2SA733G-x-AE3-R</p>	<p>(1) B: Tape Box, K: Bulk, R: Tape Reel (2) AE3: SOT-23, AL3: SOT-323, T92: TO-92 T9S: TO-92SP (3) x: refer to Classification of h_{FE} (4) G: Halogen Free and Lead Free, L: Lead Free</p>
------------------------	---

MARKING

PACKAGE	MARKING
SOT-23 / SOT-323	 <p>A7</p> <p>L: Lead Free G: Halogen Free</p>
TO-92	 <p>UTC</p> <p>A 7 3 3</p> <p>Rank ← → Date Code</p> <p>1</p> <p>L: Lead Free G: Halogen Free</p>
TO-92SP	 <p>UTC</p> <p>2SA733</p> <p>← → Date Code</p> <p>1</p> <p>L: Lead Free G: Halogen Free</p>

■ ABSOLUTE MAXIMUM RATING (T_A=25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V _{CB0}	-60	V
Collector-Emitter Voltage		V _{CEO}	-50	V
Emitter-Base Voltage		V _{EBO}	-5	V
Collector Power Dissipation (T _C =25°C)	SOT-23	P _C	300	mW
	SOT-323		200	mW
	TO-92		750	mW
	TO-92SP		550	mW
Collector Current		I _C	-150	mA
Junction Temperature		T _J	+125	°C
Storage Temperature		T _{STG}	-55 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV _{CB0}	I _C =-100μA, I _E =0	-60			V
Collector-Emitter Breakdown Voltage	BV _{CEO}	I _C =-10mA, I _B =0	-50			V
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C =-100mA, I _B =-10mA		-0.1	-0.3	V
Collector Cut-Off Current	I _{CBO}	V _{CB} =-40V, I _E =0			-100	nA
Emitter Cut-Off Current	I _{EBO}	V _{EB} =-3V, I _C =0			-100	nA
DC Current Gain	h _{FE}	V _{CE} =-6V, I _C =-1mA	90		600	
Current Gain Bandwidth Product	f _T	V _{CE} =-10V, I _C =-50mA	100	190		MHz
Output Capacitance	C _{ob}	V _{CB} =-10V, I _E =0, f=1MHz		2.0	3.0	pF
Noise Figure	NF	I _C =-0.1mA, V _{CE} =-6V R _G =10kΩ, f=100Hz		4.0	6.0	dB

■ CLASSIFICATION OF h_{FE}

RANK	R	Q	P	K
RANGE	90-180	135-270	200-400	300-600

■ TYPICAL CHARACTERISTICS

Fig.1 Static Characteristics

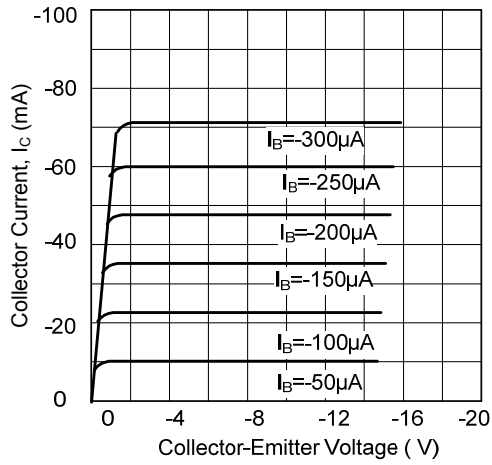


Fig.2 DC Current Gain

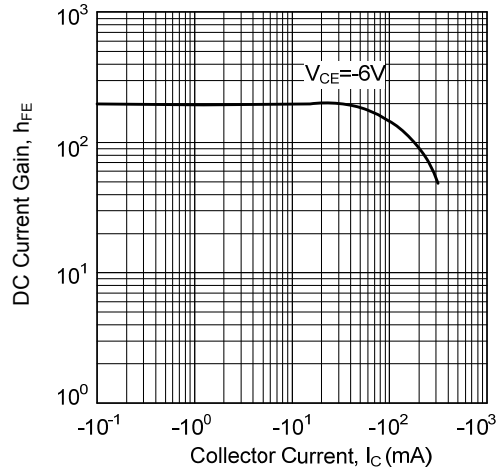


Fig.3 Base-Emitter on Voltage

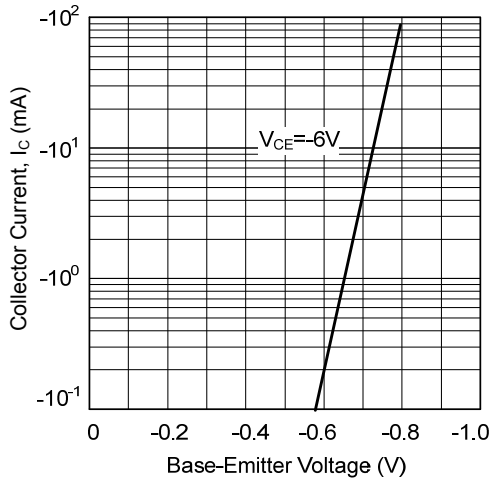


Fig.4 Saturation Voltage

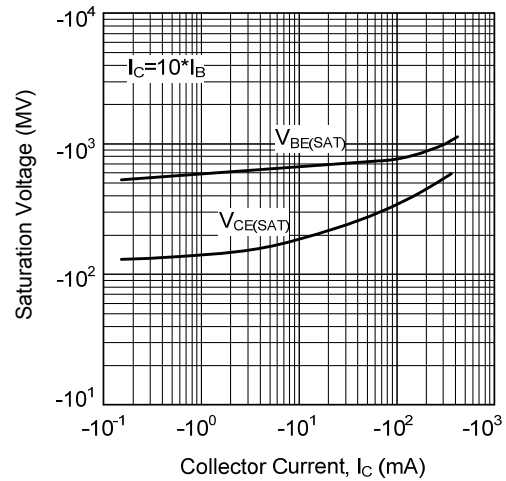


Fig.5 Current Gain-Bandwidth Product

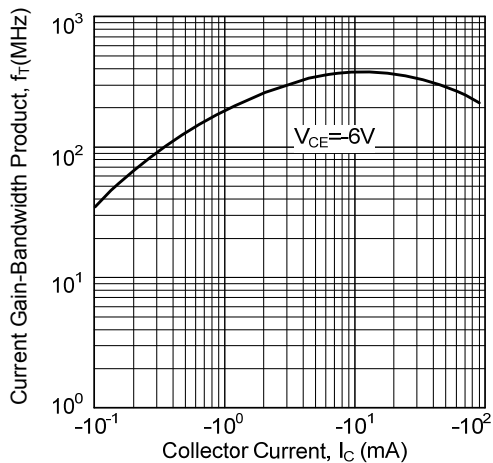
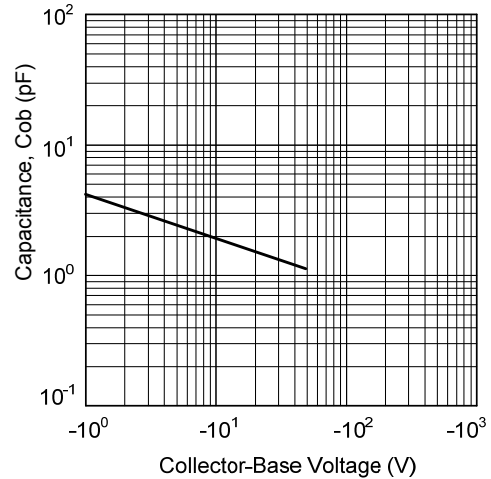
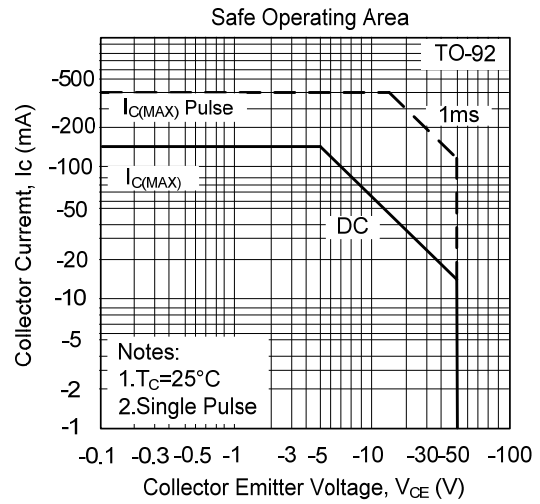
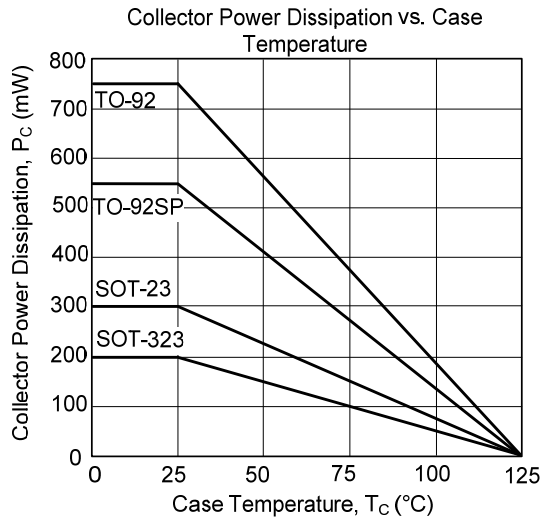


Fig.6 Collector Output Capacitance



■ TYPICAL CHARACTERISTICS (Cont.)



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.