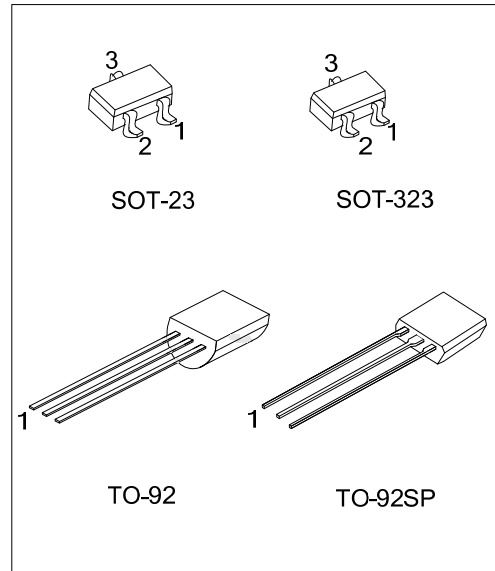




# 2SA733

## PNP SILICON TRANSISTOR

### LOW FREQUENCY AMPLIFIER PNP EPITAXIAL SILICON TRANSISTOR



■ **DESCRIPTION**

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

■ **FEATURES**

- \* Collector-emitter voltage:  
BV<sub>CEO</sub>=-50V
- \* Collector current up to -150mA
- \* High h<sub>FE</sub> linearity
- \* Complimentary to 2SC945

■ **ORDERING INFORMATION**

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
-	2SA733G-x-AE3-R	SOT-23	E	B	C	Tape Reel
-	2SA733G-x-AL3-R	SOT-323	E	B	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: E: Emitter    C: Collector    B: Base

<p>2SA733G-x-AE3-R</p> <p>(1)Packing Type (2)Package Type (3)Rank (4)Green Package</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<sub>FE</sub> (4) G: Halogen Free and Lead Free, L: Lead Free</p>
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■ **MARKING**

SOT-23 / SOT-323	TO-92	TO-92SP

■ ABSOLUTE MAXIMUM RATING (T<sub>A</sub>=25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V <sub>CBO</sub>	-60	V
Collector-Emitter Voltage		V <sub>CEO</sub>	-50	V
Emitter-Base Voltage		V <sub>EBO</sub>	-5	V
Collector Dissipation	SOT-23	P <sub>C</sub>	300	mW
	SOT-323		200	
	TO-92		750	
	TO-92SP		550	
Collector Current		I <sub>C</sub>	-150	mA
Junction Temperature		T <sub>J</sub>	125	°C
Storage Temperature		T <sub>STG</sub>	-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<sub>A</sub>=25°C, unless otherwise specified)

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

■ CLASSIFICATION OF h<sub>FE</sub>

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

## ■ TYPICAL CHARACTERISTICS

Fig.1 Static Characteristics

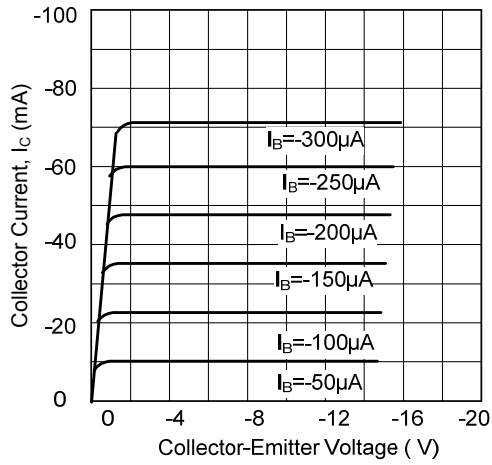


Fig.2 DC Current Gain

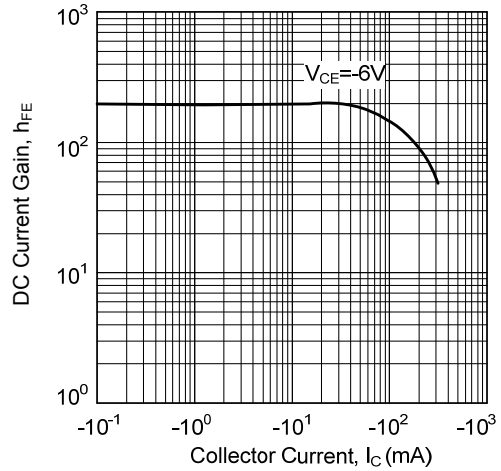


Fig.3 Base-Emitter on Voltage

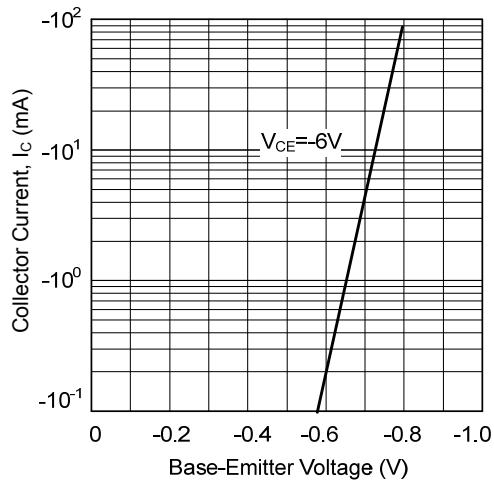


Fig.4 Saturation Voltage

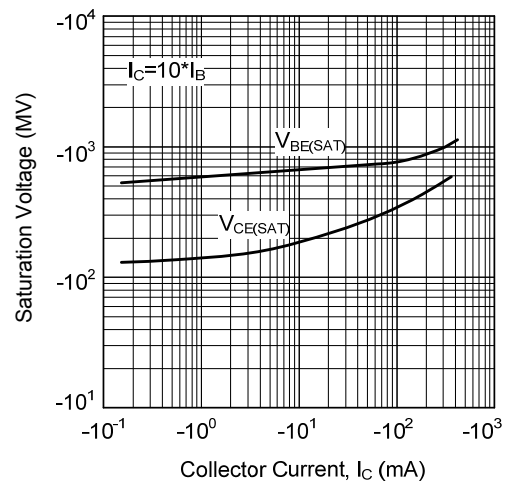


Fig.5 Current Gain-Bandwidth Product

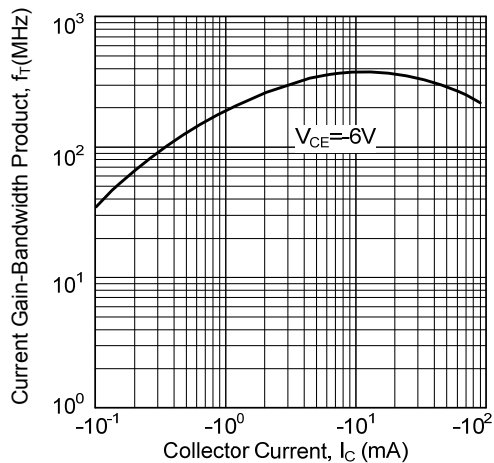
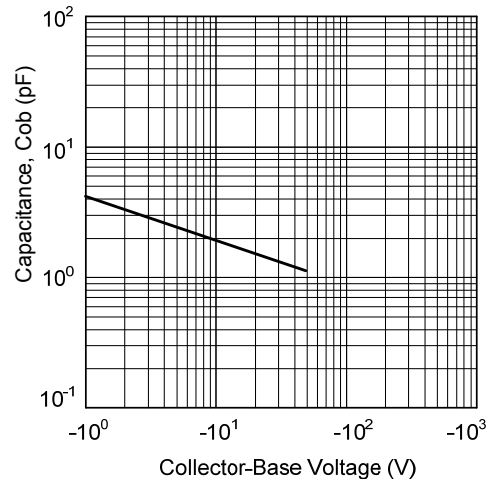
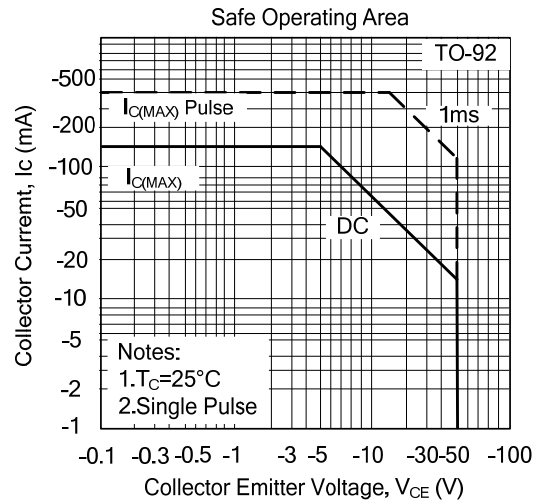
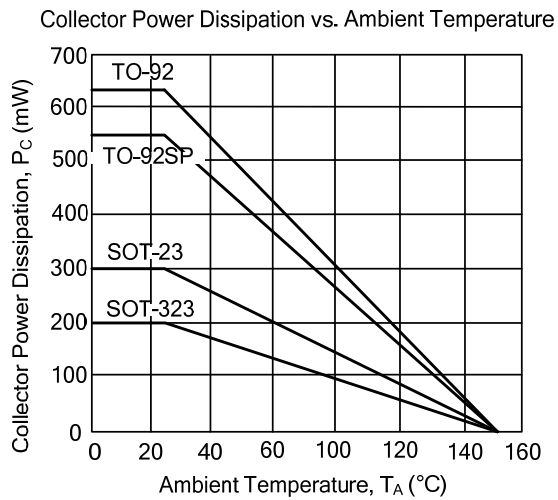


Fig.6 Collector Output Capacitance



■ TYPICAL CHARACTERISTICS (Cont.)



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