



## 2SA733

## PNP SILICON TRANSISTOR

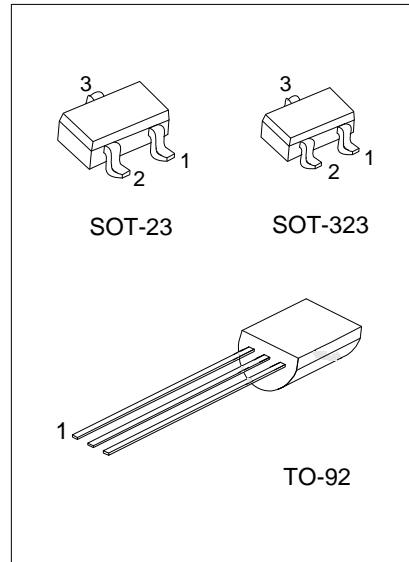
### LOW FREQUENCY AMPLIFIER PNP EPITAXIAL SILICON TRANSISTOR

#### DESCRIPTION

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

#### FEATURES

- \* Collector-emitter voltage:  
 $BV_{CE0} = -50V$
- \* Collector current up to  $-150mA$
- \* High  $h_{FE}$  linearity
- \* Complimentary to 2SC945

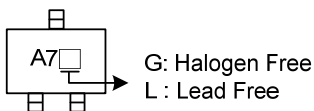


#### ORDERING INFORMATION

Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free	Halogen Free		1	2	3	
2SA733-x-AE3-R	2SA733L-x-AE3-R	2SA733G-x-AE3-R	SOT-23	E	B	C	Tape Reel
2SA733-x-AL3-R	2SA733L-x-AL3-R	2SA733G-x-AL3-R	SOT-323	E	B	C	Tape Reel
2SA733-x-T92-B	2SA733L-x-T92-B	2SA733G-x-T92-B	TO-92	E	C	B	Tape Box
2SA733-x-T92-K	2SA733L-x-T92-K	2SA733G-x-T92-K	TO-92	E	C	B	Bulk

<p>2SA733L-x-AE3-R</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Rank</p> <p>(4)Lead Free</p>	<p>(1) B: Tape Box, K: Bulk, R: Tape Reel</p> <p>(2) AE3: SOT-23, AL3: SOT-323, T92: TO-92</p> <p>(3) x: refer to Classification of <math>h_{FE}</math></p> <p>(4) G: Halogen Free, L: Lead Free, Blank: Pb/Sn</p>
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#### MARKING (For SOT Package)



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

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		$V_{CBO}$	-60	V
Collector-Emitter Voltage		$V_{CEO}$	-50	V
Emitter-Base Voltage		$V_{EBO}$	-5	V
Collector Dissipation	SOT-23/SOT-323	$P_c$	250	mW
	TO-92		1	W
Collector Current		$I_C$	-150	mA
Junction Temperature		$T_J$	125	°C
Storage Temperature		$T_{STG}$	-55 ~ +150	°C

Note:1. 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 (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=-100\mu A, I_E=0$	-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	$I_C=-0.1mA, V_{CE}=-6V$ $R_G=10k\Omega, f=100Hz$		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

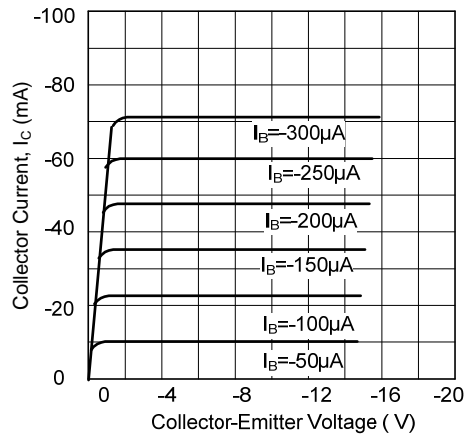


Fig.2 DC Current Gain

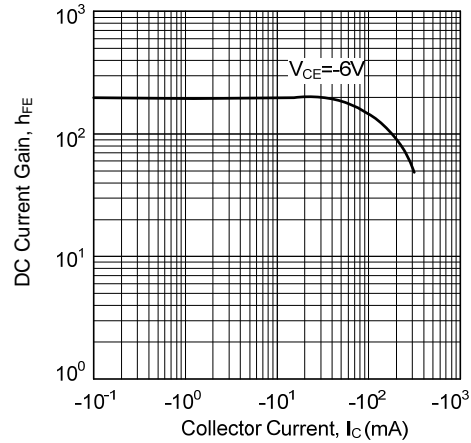


Fig.3 Base-Emitter on Voltage

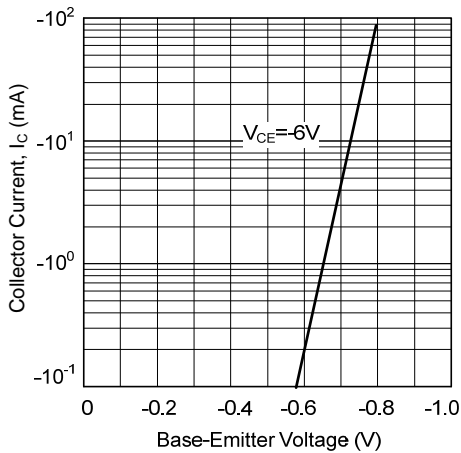


Fig.4 Saturation Voltage

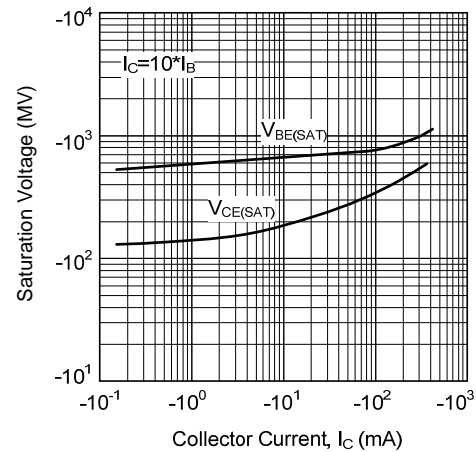


Fig.5 Current Gain-Bandwidth Product

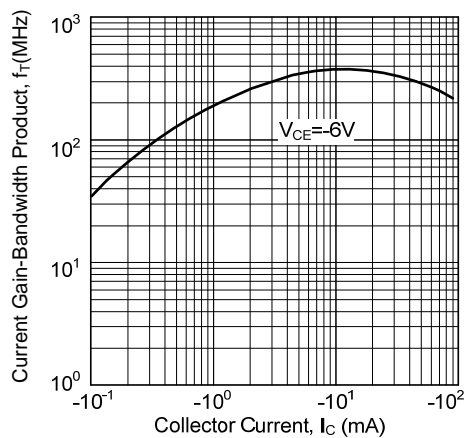
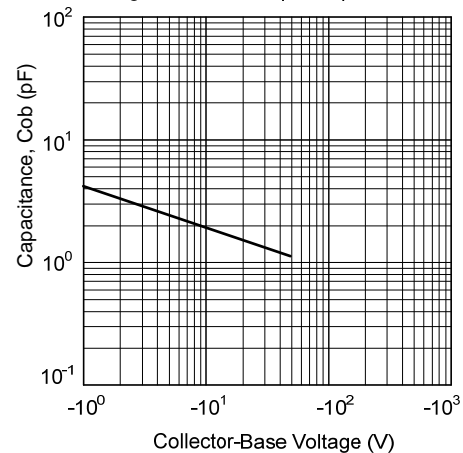


Fig.6 Collector Output Capacitance



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