



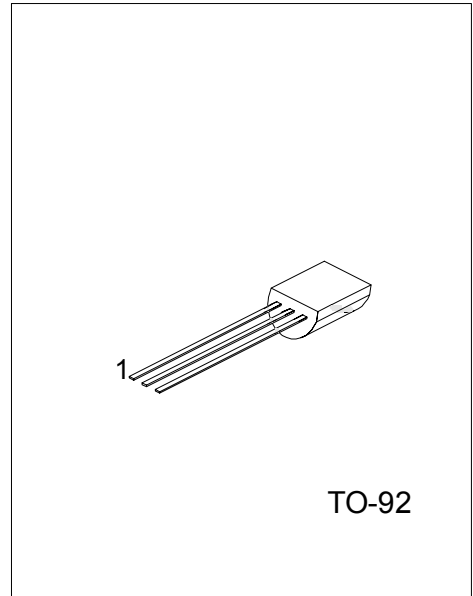
2SC1815

NPN EPITAXIAL SILICON TRANSISTOR

AUDIO FREQUENCY AMPLIFIER HIGH FREQUENCY OSC NPN TRANSISTOR

■ FEATURES

- * Collector-Emitter voltage:
BV_{CEO}=50V
- * Collector current up to 150mA
- * High h_{FE} linearity
- * Complimentary to UTC 2SA1015



*Pb-free plating product number: 2SC1815L

■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
2SC1815-x-T92-A-B	2SC1815L-x-T92-A-B	TO-92	E	C	B	Tape Box
2SC1815-x-T92-A-K	2SC1815L-x-T92-A-K	TO-92	E	C	B	Bulk

<p>2SC1815L-x-T92-A-B</p>	<p>(1) Packing Type (2) Pin Assignment (3) Package Type (4) Rank (5) Lead Plating</p>	<p>(1) B: Tape Box, K: Bulk (2) refer to Pin Assignment (3) T92: TO-92 (4) x: refer to Classification of h_{FE1} (5) L: Lead Free Plating, Blank: Pb/Sn</p>
---------------------------	---	---

■ **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 current	I_C	150	mA
Base current	I_B	50	mA
Collector dissipation(Ta=25°C)	P_C	400	mW
Junction Temperature	T_J	+125	°C
Storage Temperature	T_{STG}	-55 ~ +125	°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** (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=60V, I_E=0$			100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=5V, I_C=0$			100	nA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=100mA, I_B=10mA$		0.1	0.25	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=100mA, I_B=10mA$			1.0	V
DC Current Gain(note)	h_{FE1}	$V_{CE}=6V, I_C=2mA$	120		700	
	h_{FE2}	$V_{CE}=6V, I_C=150mA$	25			
Current Gain Bandwidth Product	f_T	$V_{CE}=10V, I_C=50mA$	80			MHz
Output Capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		2.0	3.0	pF
Noise Figure	NF	$I_C=-0.1mA, V_{CE}=6V$ $R_G=10k\Omega, f=100Hz$		1.0	1.0	dB

■ **CLASSIFICATION OF h_{FE1}**

RANK	Y	GR	BL
RANGE	120-240	200-400	350-700

■ TYPICAL CHARACTERISTICS

Fig.1 Static characteristics

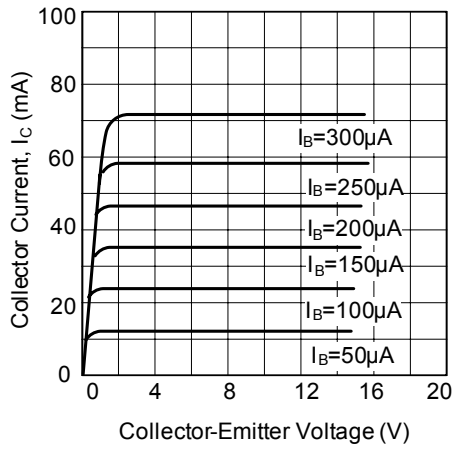


Fig.2 DC current Gain

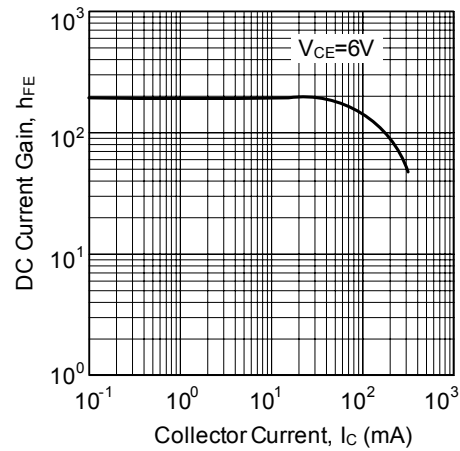


Fig.3 Base-Emitter on Voltage

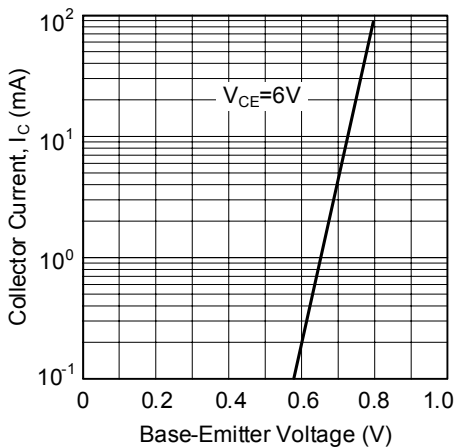


Fig.4 Saturation Voltage

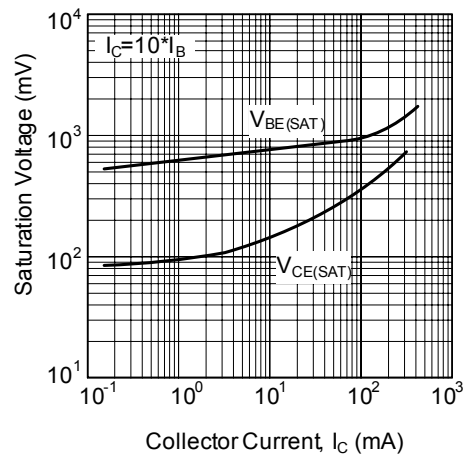


Fig.5 Current Gain-Bandwidth Product

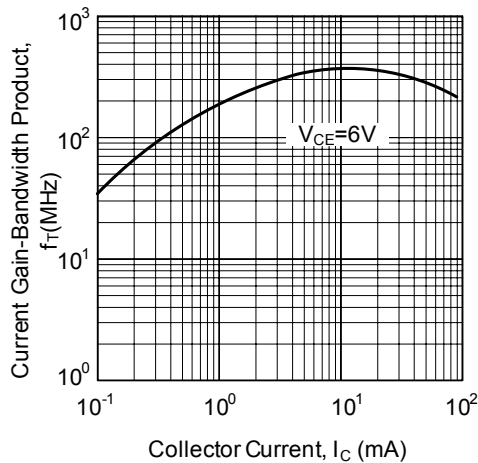
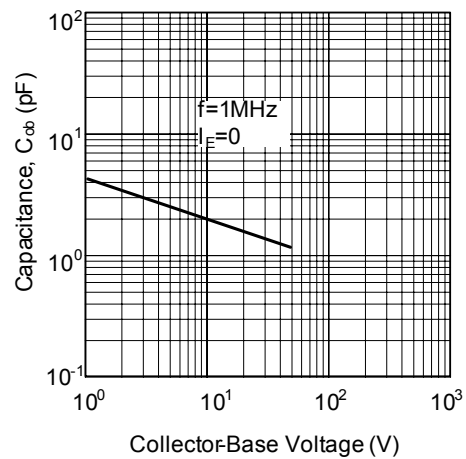


Fig.6 Collector Output Capacitance



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. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.