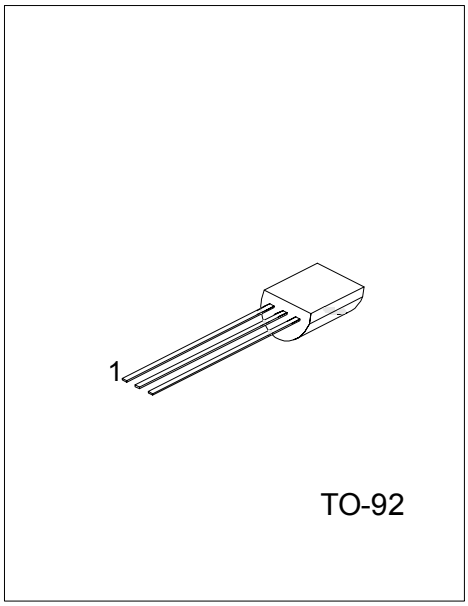
2SC1815

NPN EPITAXIAL SILICON TRANSISTOR

AUDIO FREQUENCY AMPLIFIER HIGH FREQUENCY OSC NPN TRANSISTOR



*Pb-free plating product number: 2SC1815L

■ FEATURES

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

■ 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

2SC1815L-x-T92-A-B

(1)Packing Type
(2)Pin Assignment
(3)Package Type
(4)Rank
(5)Lead Plating

(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

■ ABSOLUTE MAXIMUM RATING (Ta=25℃,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℃)	P_C	400	mW
Junction Temperature	T_J	+125	℃
Storage Temperature	T_{STG}	-55 ~ +125	℃

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℃, 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} h_{FE2}	V_{CE}=6V, I_C=2mA V_{CE}=6V, I_C=150mA	120 25		700	
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=10kΩ, 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

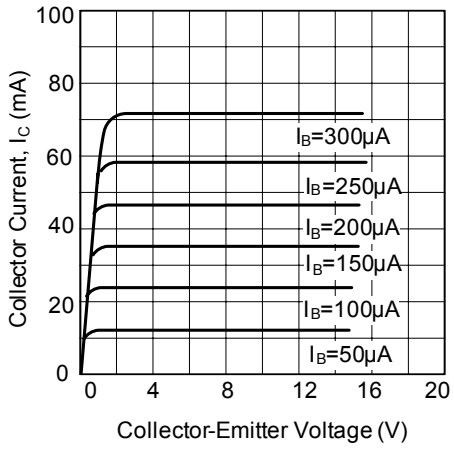


Fig.2 DC current Gain

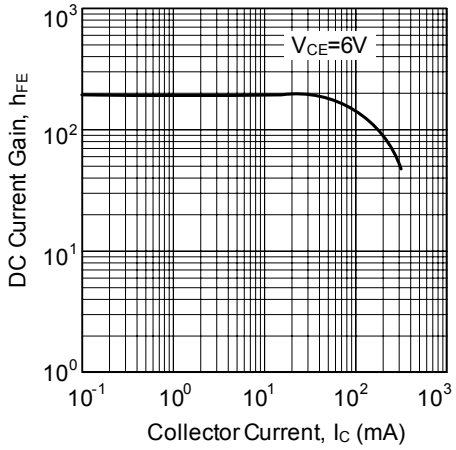


Fig.3 Base-Emitter on Voltage

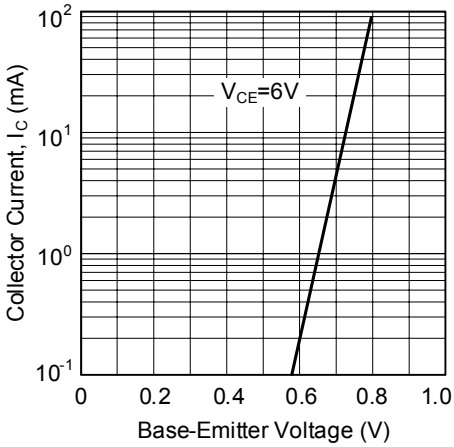


Fig.4 Saturation Voltage

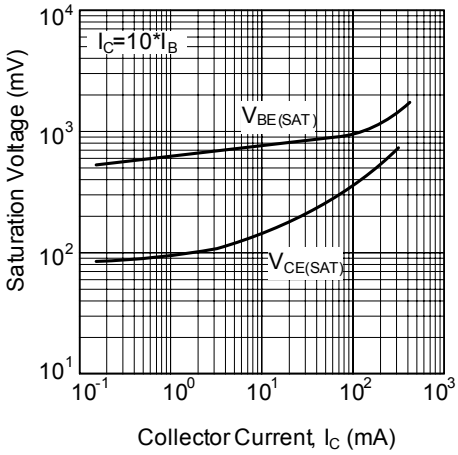


Fig.5 Current Gain-Bandwidth Product

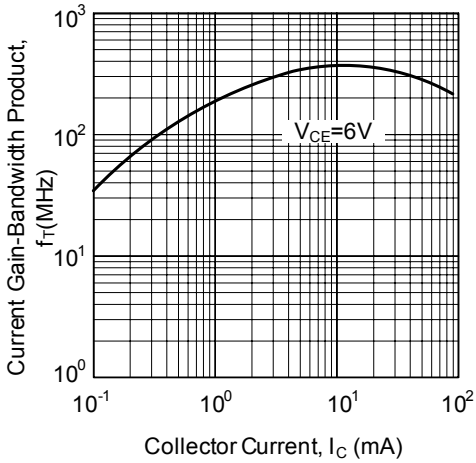


Fig.6 Collector Output Capacitance