



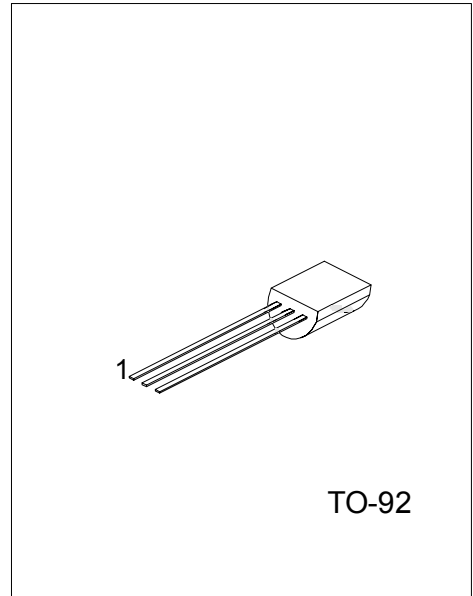
2SC1815

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



TO-92

*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>
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■ **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 =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

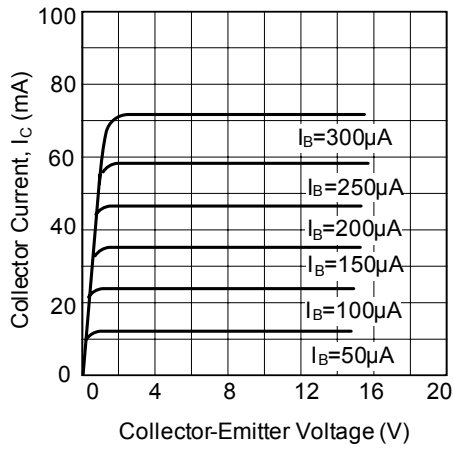


Fig.2 DC current Gain

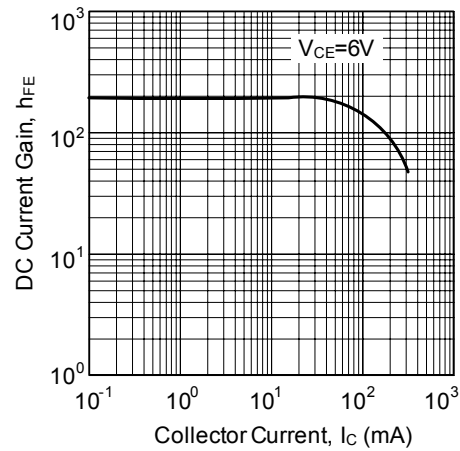


Fig.3 Base-Emitter on Voltage

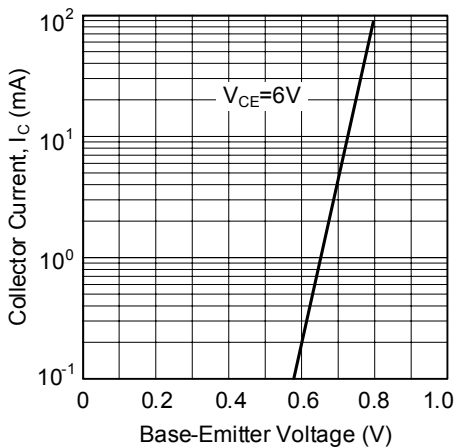


Fig.4 Saturation Voltage

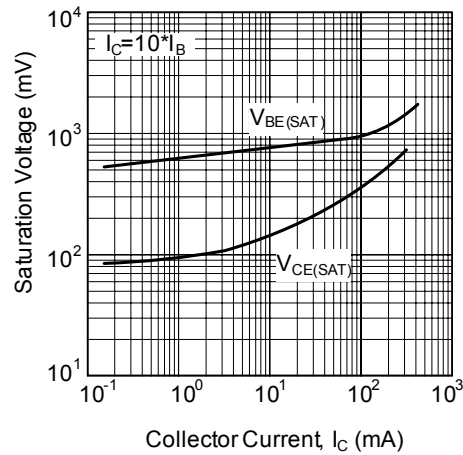


Fig.5 Current Gain-Bandwidth Product

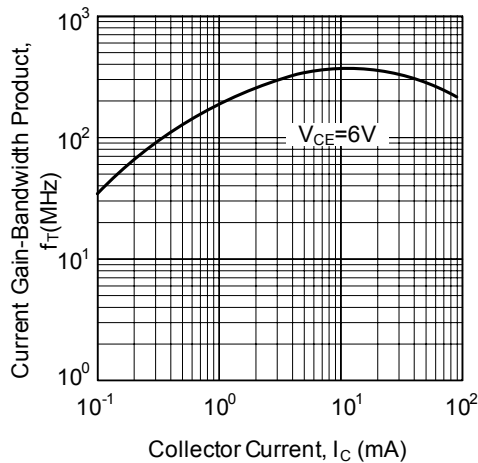
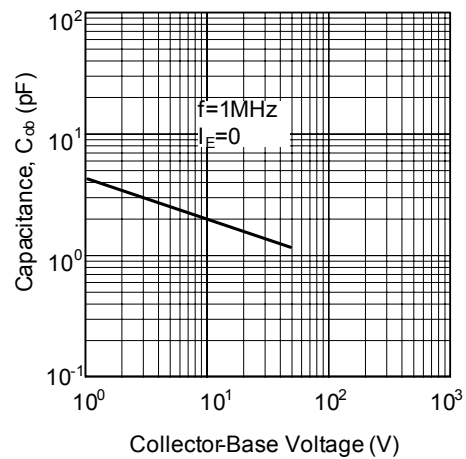


Fig.6 Collector Output Capacitance



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