



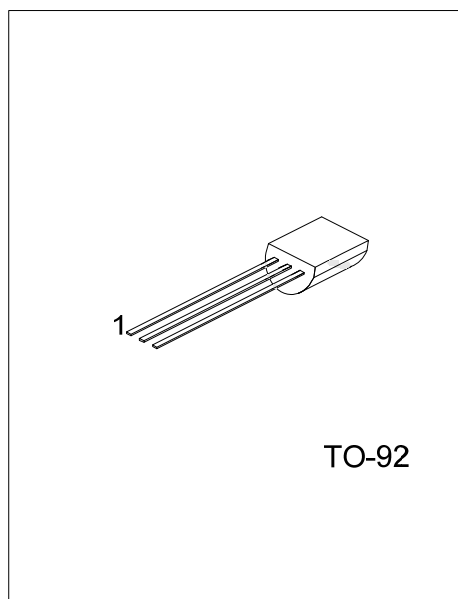
2SC1815

NPN 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



Lead-free: 2SC1815L
Halogen-free: 2SC1815G

ORDERING INFORMATION

Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free Plating	Halogen Free		1	2	3	
2SC1815-x-T92-B	2SC1815L-x-T92-B	2SC1815G-x-T92-B	TO-92	E	C	B	Tape Box
2SC1815-x-T92-K	2SC1815L-x-T92-K	2SC1815G-x-T92-K	TO-92	E	C	B	Bulk

2SC1815L-x-T92-B	(1)Packing Type (2)Package Type (3)Rank (4)Lead Plating	(1) B: Tape Box, K: Bulk (2) T92: TO-92 (3) x: refer to Classification of h_{FE1} (4) G: Halogen Free, L: Lead Free, Blank: Pb/Sn
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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
Power Dissipation(Ta=25°C)	P_D	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	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

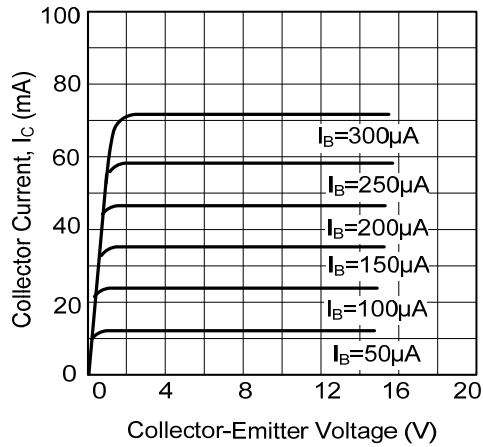


Fig.2 DC current Gain

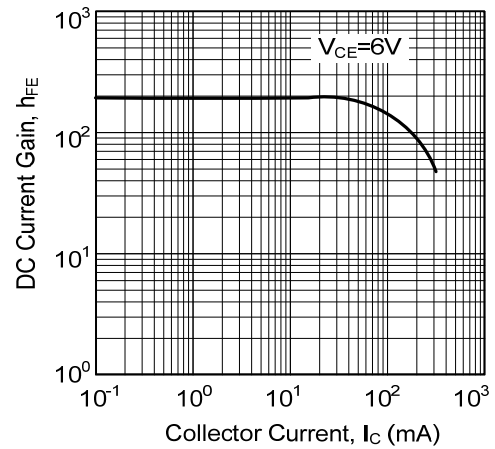


Fig.3 Base-Emitter on Voltage

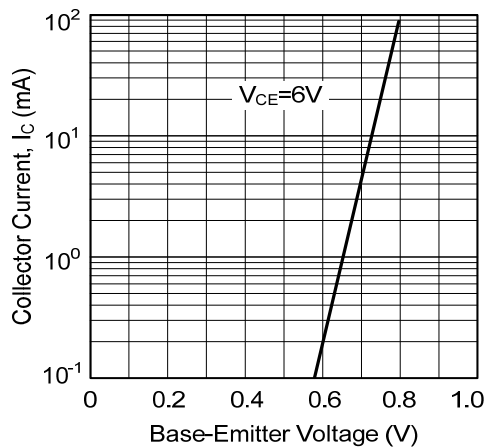


Fig.4 Saturation Voltage

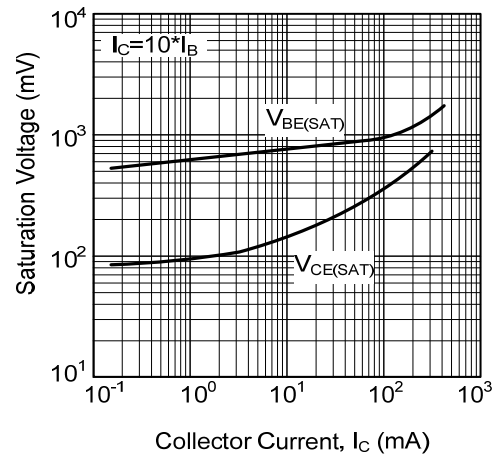


Fig.5 Current Gain-Bandwidth Product

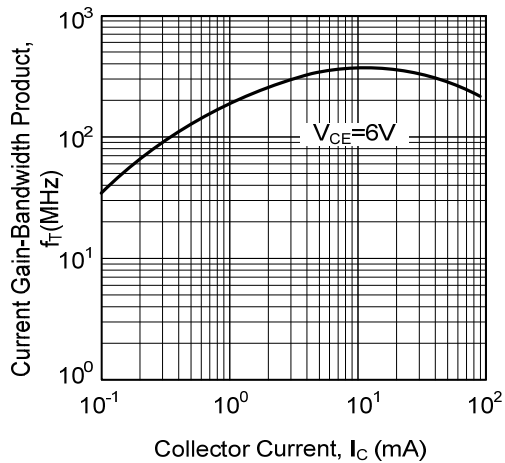
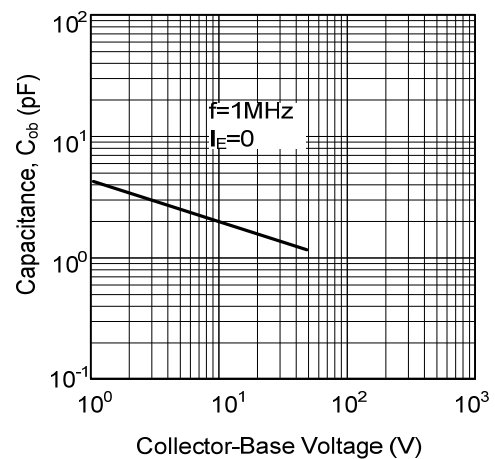


Fig.6 Collector Output Capacitance



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