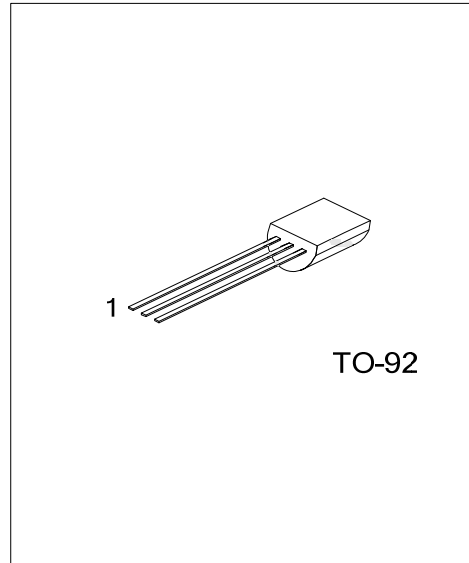




2SC1815

NPN SILICON TRANSISTOR

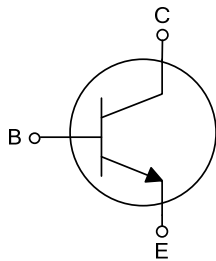
AUDIO FREQUENCY
AMPLIFIER HIGH
FREQUENCY OSC NPN
TRANSISTOR



■ FEATURES

- * Collector-Emitter voltage: $BV_{CE0}=50V$
- * Collector current up to 150mA
- * High h_{FE} linearity
- * Complimentary to UTC 2SA1015

■ SYMBOL



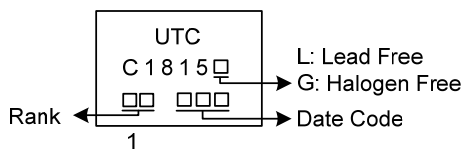
■ ORDERING INFORMATION

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

Note: Pin Assignment: E: Emitter C: Collector B: Base

<p>2SC1815G-xx-T92-B</p>	<p>(1) B: Tape Box, K: Bulk (2) T92: TO-92 (3) xx: Refer to Classification of h_{FE1} (4) G: Halogen Free and Lead Free, L: Lead Free</p>
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■ MARKING



■ ABSOLUTE MAXIMUM RATING ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CB0}	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 Power Dissipation ($T_A=25^\circ\text{C}$)	P_D	625	mW
Junction Temperature (Note 2)	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Notes: 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.

2. It is guarantee by design, not 100% be tested.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Case	θ_{JC}	80	$^\circ\text{C/W}$

■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$			100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			100	nA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		0.1	0.25	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$			1.0	V
DC Current Gain	h_{FE1}	$V_{CE}=6\text{V}, I_C=2\text{mA}$	70		700	
	h_{FE2}	$V_{CE}=6\text{V}, I_C=150\text{mA}$	25			
Current Gain Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=50\text{mA}$	80			MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		2.0	3.0	pF

■ CLASSIFICATION OF h_{FE1}

RANK	O	Y	GR	BL
RANGE	70~140	120~240	200~400	350~700

■ TYPICAL CHARACTERISTICS

Fig.1 Static characteristics

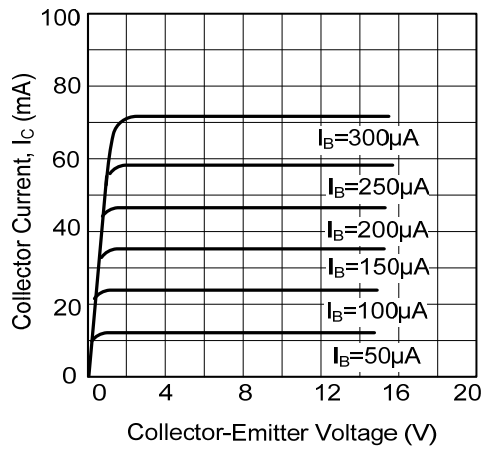


Fig.2 DC current Gain

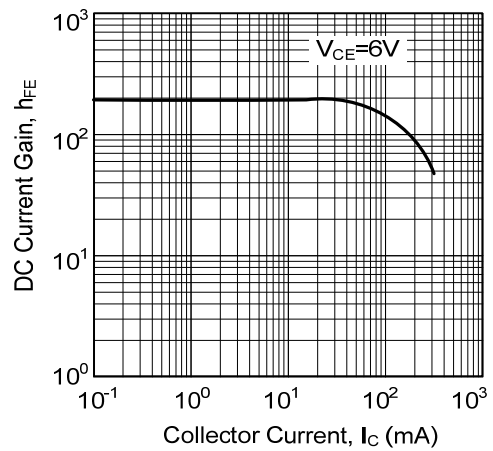


Fig.3 Base-Emitter on Voltage

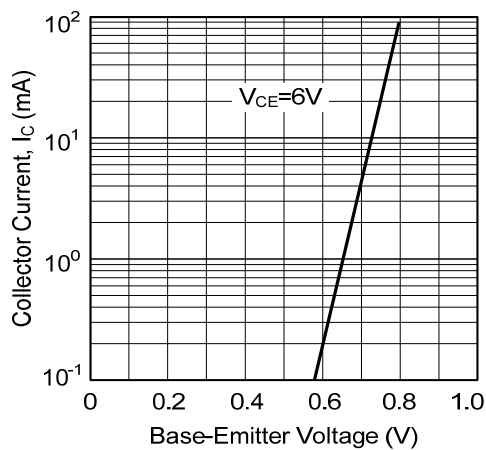


Fig.4 Saturation Voltage

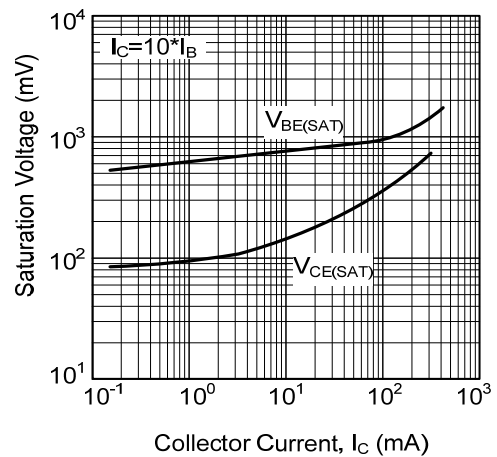


Fig.5 Current Gain-Bandwidth Product

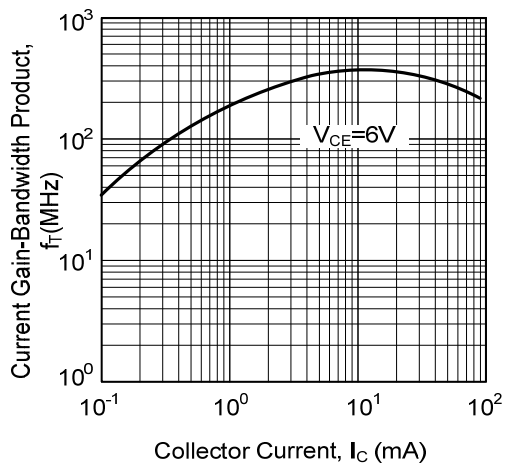
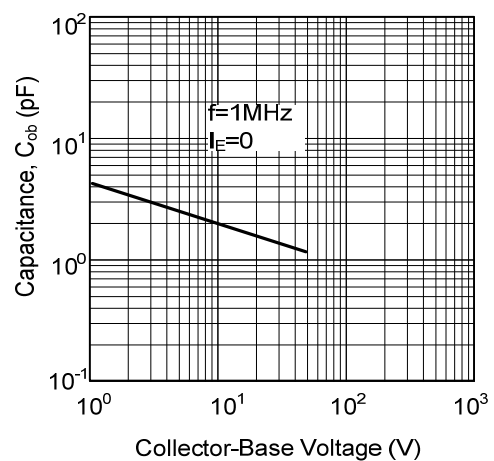
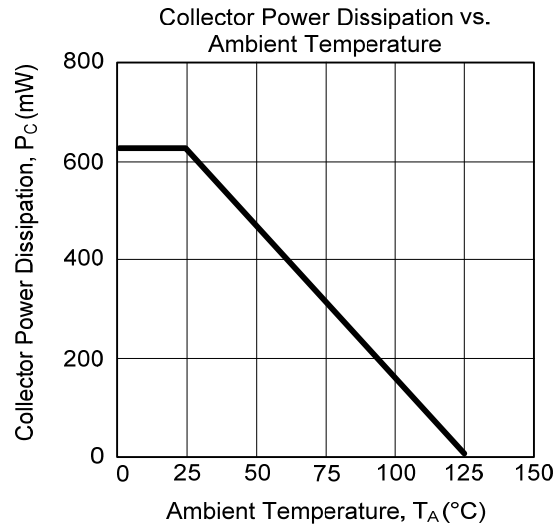
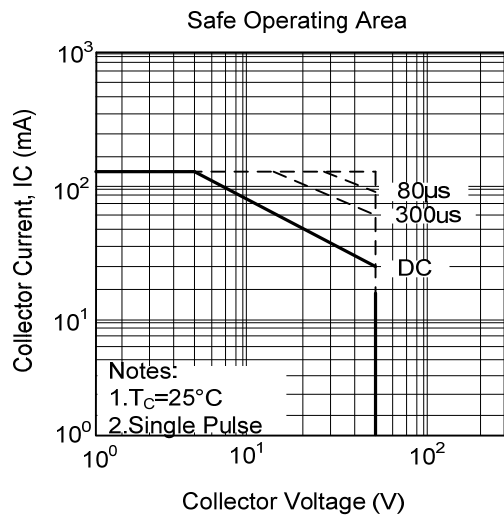


Fig.6 Collector Output Capacitance



■ TYPICAL CHARACTERISTICS (Cont.)



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