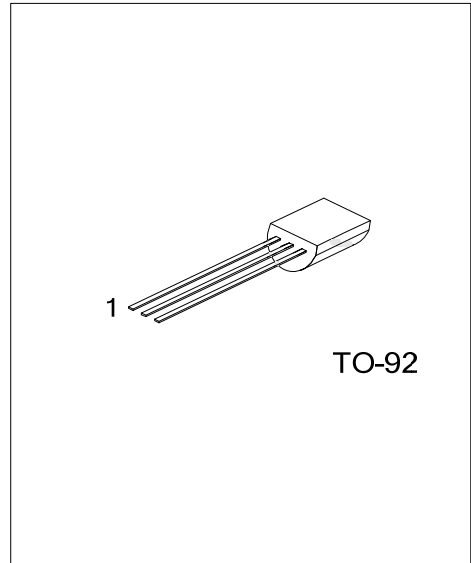




## 2SC1815

## NPN SILICON TRANSISTOR

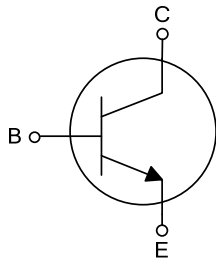
AUDIO FREQUENCY  
AMPLIFIER HIGH  
FREQUENCY OSC NPN  
TRANSISTOR



### FEATURES

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

### SYMBOL



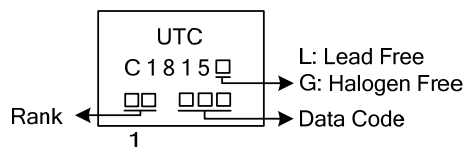
### ORDERING INFORMATION

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>2SC1815L-xx-T92-B</p> <p>(1) Packing Type (2) Package Type (3) Rank (4) Green Package</p>	<p>(1) B: Tape Box, K: Bulk (2) T92: TO-92 (3) xx: Refer to Classification of <math>h_{FE1}</math> (4) L: Lead Free, G: Halogen Free and Lead Free</p>
----------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------

### 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
Power Dissipation ( $T_A=25^\circ\text{C}$ )	$P_D$	625	mW
Junction Temperature	$T_J$	+125	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55 ~ +125	$^\circ\text{C}$

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.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Case	$\theta_{JC}$	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	$I_{CB0}$	$V_{CB}=60\text{V}, I_E=0$			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

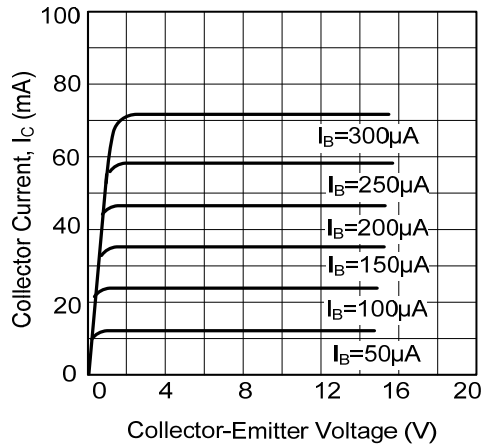


Fig.2 DC current Gain

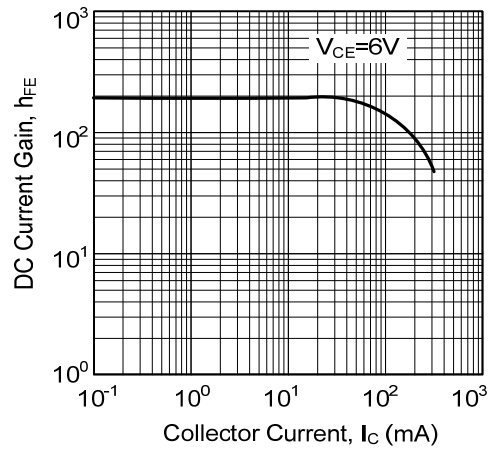


Fig.3 Base-Emitter on Voltage

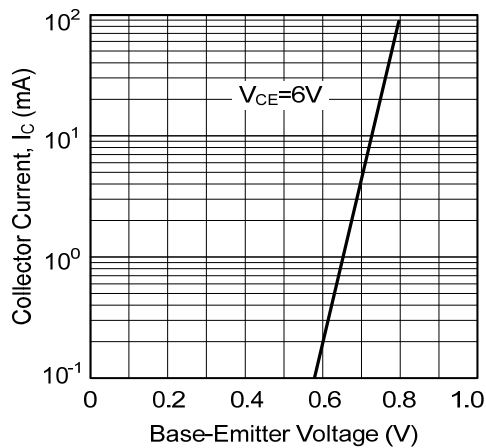


Fig.4 Saturation Voltage

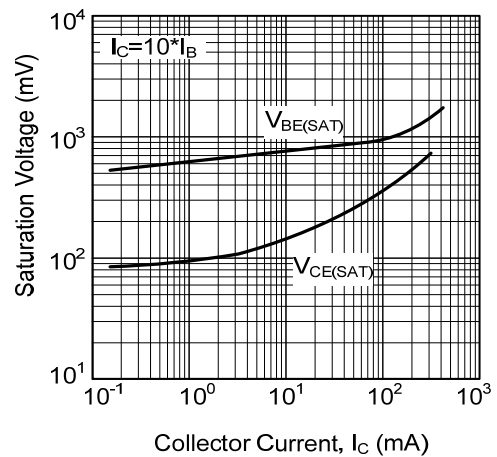


Fig.5 Current Gain-Bandwidth Product

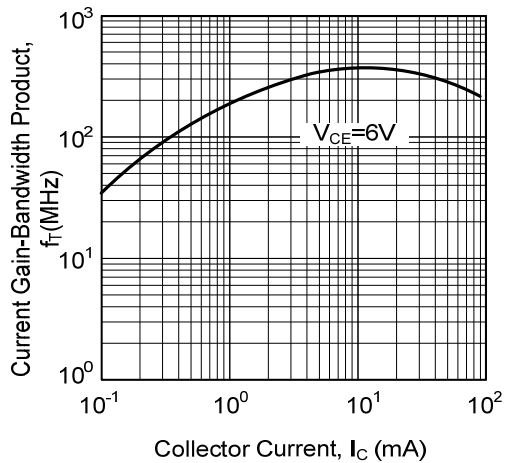
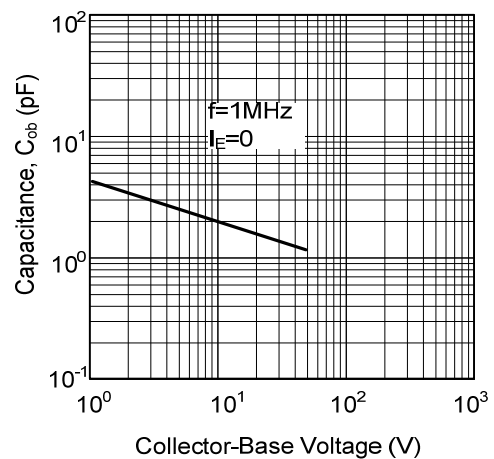
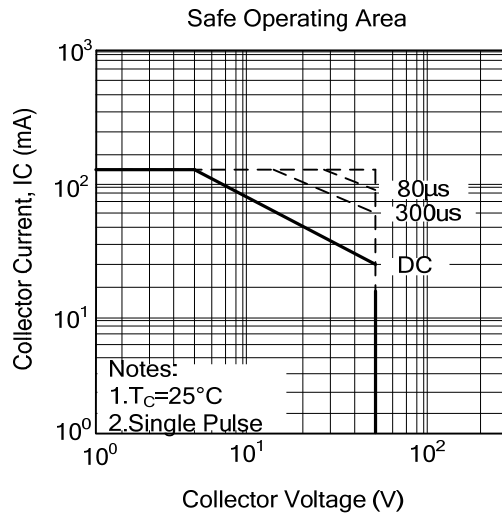


Fig.6 Collector Output Capacitance



### ■ TYPICAL CHARACTERISTICS(Cont.)



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