



2SC815

Preliminary

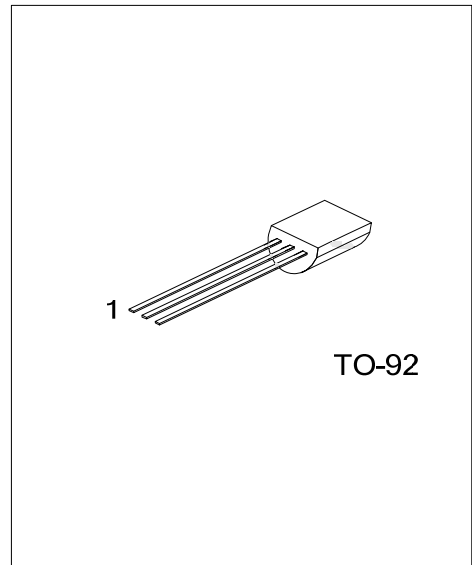
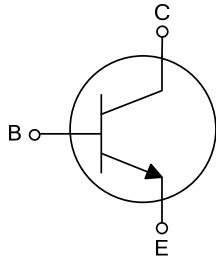
NPN SILICON TRANSISTOR

LOW FREQUENCY AMPLIFIER & HIGH FREQUENCY OSCILLATOR

FEATURES

* Collector-Base Voltage: $BV_{CBO}=60V$

SYMBOL



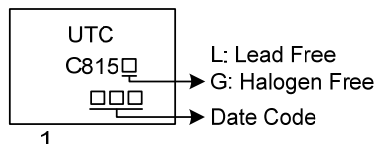
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SC815L-x-T92-B	2SC815G-x-T92-B	TO-92	E	B	C	Tape Box
2SC815L-x-T92-K	2SC815G-x-T92-K	TO-92	E	B	C	Bulk

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

2SC815G-x-T92-B (1) Packing Type (2) Package Type (3) Rank (4) Green Package	(1) B: Tape Box, K: Bulk (2) T92: TO-92 (3) x: Refer to Classification of h_{FE} (4) G: Halogen Free and Lead Free, L: Lead Free
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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_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	200	mA
Power Dissipation ($T_A=25^{\circ}\text{C}$)	P_C	400	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 Ambient	θ_{JA}	312.5	$^{\circ}\text{C/W}$

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu\text{A}$, $I_E=0$	60			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=10\text{mA}$, $I_B=0$	45			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=10\mu\text{A}$, $I_C=0$	5			V
Collector Cut-off Current	I_{CBO}	$V_{CB}=45\text{V}$, $I_E=0$			0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=3\text{V}$, $I_C=0$			0.1	μA
Base-Emitter On Voltage	$V_{BE(ON)}$	$V_{CE}=10\text{V}$, $I_C=10\text{mA}$	0.6		0.9	V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=150\text{mA}$, $I_B=15\text{mA}$			0.4	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=150\text{mA}$, $I_B=15\text{mA}$			1.1	V
DC Current Gain	h_{FE}	$V_{CE}=1\text{V}$, $I_C=50\text{mA}$	120		400	
Current Gain Bandwidth Product	f_T	$V_{CE}=10\text{V}$, $I_C=10\text{mA}$	100			MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$		4		pF

■ **CLASSIFICATION OF h_{FE1}**

RANK	Y	G
RANGE	120~240	200~400

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