



## 2SA1694

## PNP EPITAXIAL SILICON TRANSISTOR

### SILICON PNP EPITAXIAL PLANAR TRANSISTOR

#### DESCRIPTION

The UTC **2SA1694** is a silicon PNP epitaxial planar transistor, it uses UTC's advanced technology to provide the customers with high DC current gain and high collector-base breakdown voltage, etc.

The UTC **2SA1694** is suitable for audio and general purpose, etc.

#### FEATURES

- \* High DC current gain
- \* High collector-base breakdown voltage

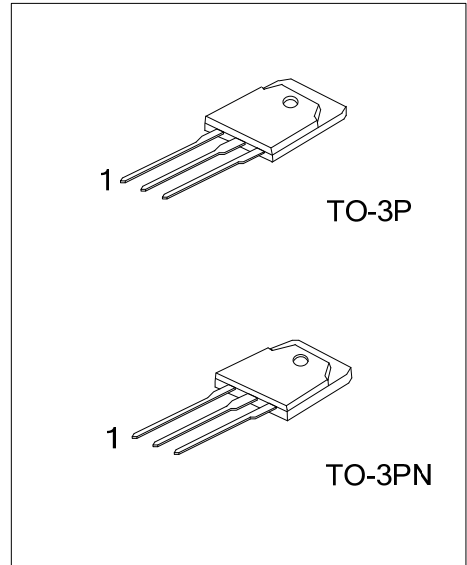
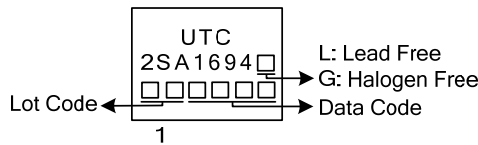
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SA1694L-x-T3P-T	2SA1694G-x-T3P-T	TO-3P	B	C	E	Tube
2SA1694L-x-T3N-T	2SA1694G-x-T3N-T	TO-3PN	B	C	E	Tube

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

<p>2SA1694L-x-T3P-T</p>	<p>(1) T: Tube  (2) T3P: TO-3P, T3N: TO-3PN  (3) x: reference to Classification of <math>h_{FE}</math>  (4) L: Lead Free, G: Halogen Free and Lead Free</p>
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#### MARKING



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

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	$V_{CBO}$	-120	V
Collector-Emitter Voltage	$V_{CEO}$	-120	V
Emitter-Base Voltage	$V_{EBO}$	-6	V
Collector Current	$I_C$	-8	A
Base Current	$I_B$	-3	A
Collector Power Dissipation ( $T_C=25^\circ\text{C}$ )	$P_C$	80	W
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55 ~150	$^\circ\text{C}$

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.

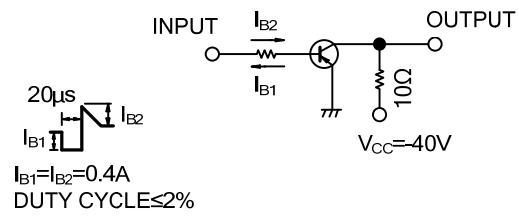
■ ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=-120\text{V}$			-10	$\mu\text{A}$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=-6\text{V}$			-10	$\mu\text{A}$
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=-50\text{mA}$	-120			V
DC Current Gain	$h_{FE}$	$V_{CE}=-4\text{V}$ , $I_C=-3\text{A}$	50		180	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=-3\text{A}$ , $I_B=-0.3\text{A}$			-1.5	V
Current Gain Bandwidth Product	$f_T$	$V_{CE}=-12\text{V}$ , $I_E=0.5\text{A}$		20		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=-10\text{V}$ , $f=1\text{MHz}$		300		pF
Switching time	Turn-on time	$V_{CC}=-40\text{V}$ , $R_L=10\Omega$ , $I_C=-4\text{A}$ , $I_{B1}=0.4\text{A}$ $I_{B2}=0.4\text{A}$		0.14		$\mu\text{S}$
	Storage time			1.40		$\mu\text{S}$
	Fall time			0.21		$\mu\text{S}$

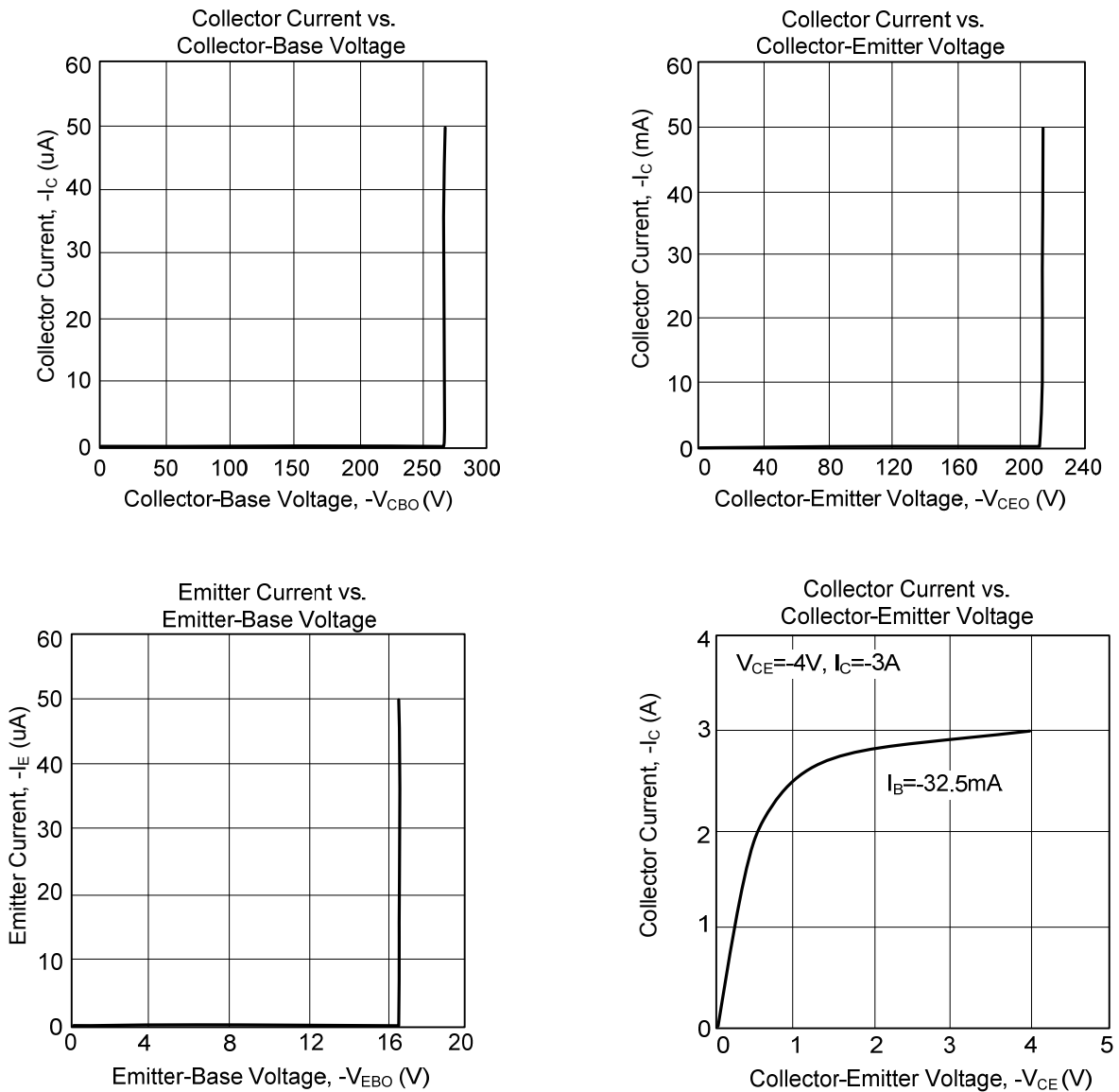
■ CLASSIFICATION OF  $h_{FE}$

RANK	O	P	Y
RANGE	50~100	70~140	90~180

### ■ TEST CIRCUIT



## ■ TYPICAL CHARACTERISTICS



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