



## 2SA684

## PNP SILICON TRANSISTOR

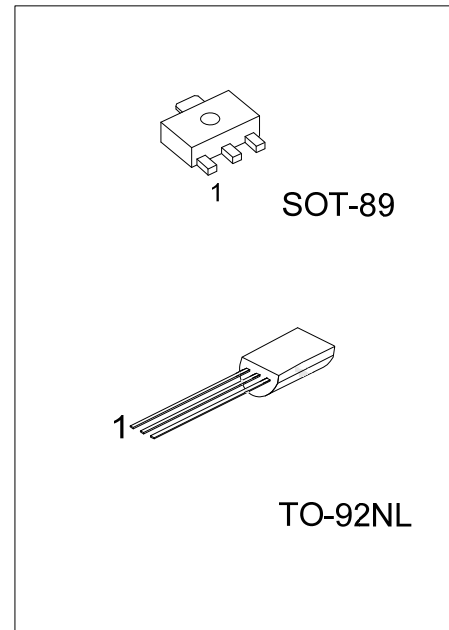
### PNP SILICON TRANSISTOR

#### DESCRIPTION

The **UTC 2SA684** is power amplifier and driver.

#### FEATURES

- \* Automatic insertion by radial taping possible.
- \* Complementary pair with 2SC1384



Lead-free: 2SA684L  
 Halogen-free: 2SA684G

#### ORDERING INFORMATION

Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free	Halogen Free		1	2	3	
2SA684-x-AB3-R	2SA684L-x-AB3-R	2SA684G-x-AB3-R	SOT-89	B	C	E	Tape Reel
2SA684-x-T9N-B	2SA684L-x-T9N-B	2SA684G-x-T9N-B	TO-92NL	E	C	B	Tape Box
2SA684-x-T9N-K	2SA684L-x-T9N-K	2SA684G-x-T9N-K	TO-92NL	E	C	B	Bulk

<p>2SA684L-x-AB3-R</p>	<p>(1) B: Tape Box, K: Bulk, R: Tape Reel          (2) AB3: SOT-89, T9N: TO-92NL          (3) x: refer to Classification of <math>h_{FE1}</math>          (4) G: Halogen, L: Lead Free, Blank: Pb/Sn</p>
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■ ABSOLUTE MAXIMUM RATINGS ( 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
Peak Collector Current	$I_{CP}$	-1.5	A
Collector Current (DC)	$I_C$	-1	A
Collector Dissipation	SOT-89	500	mW
	TO-92NL	1000	mW
Junction Temperature	$T_J$	+150	°C
Storage Temperature	$T_{STG}$	-55 ~ +150	°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.

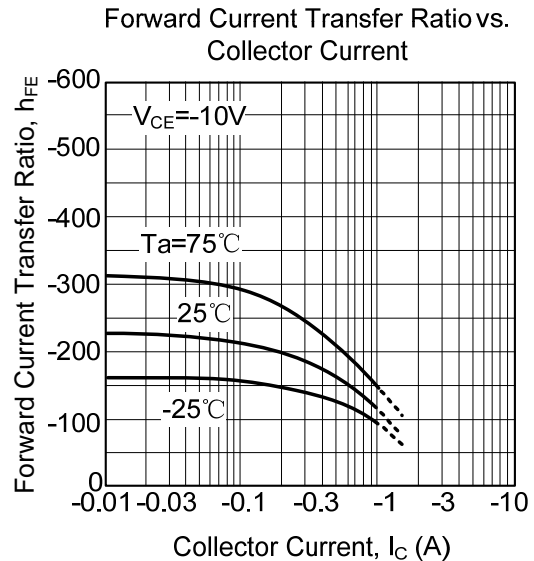
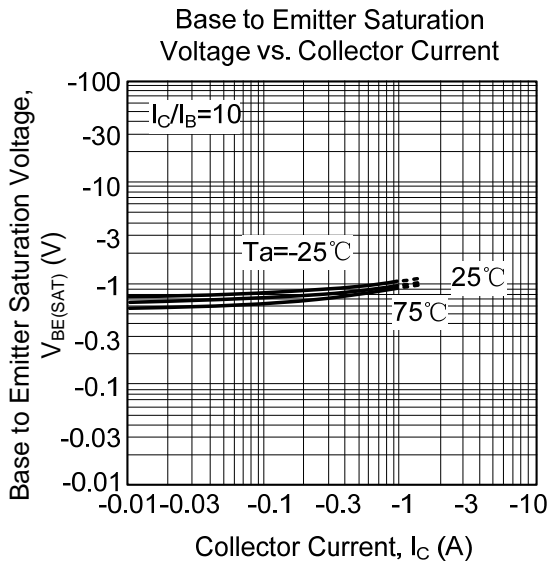
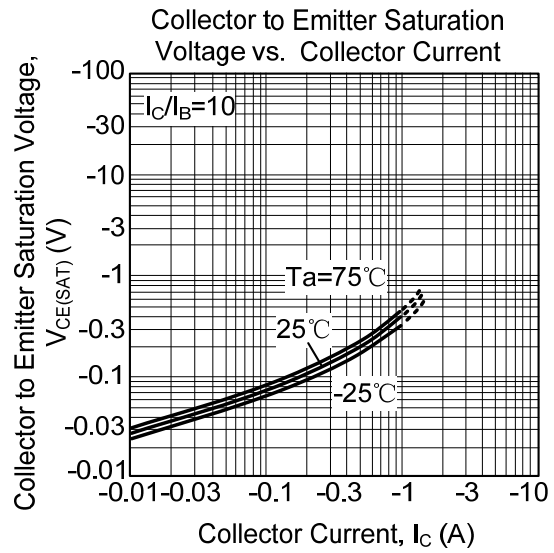
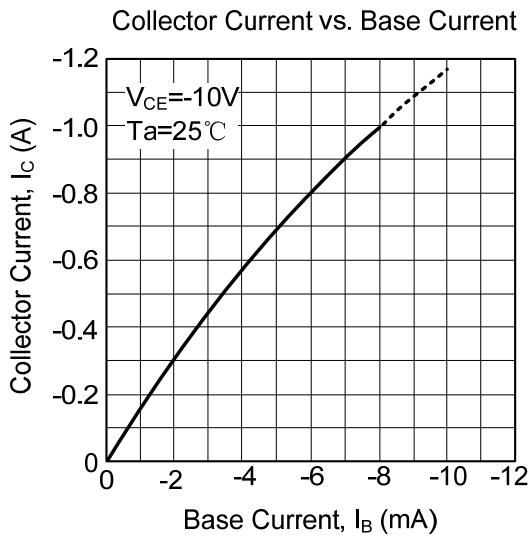
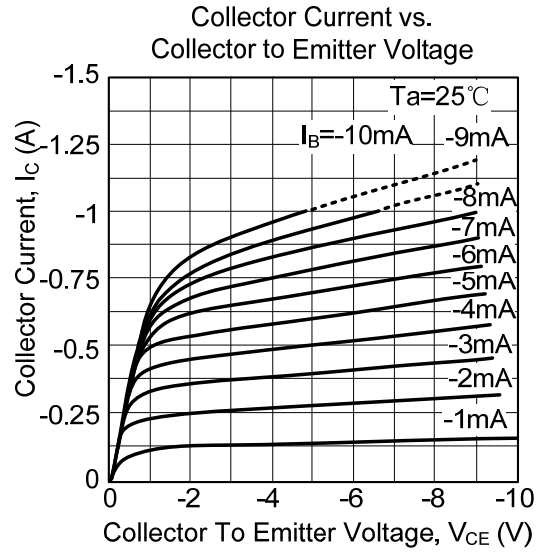
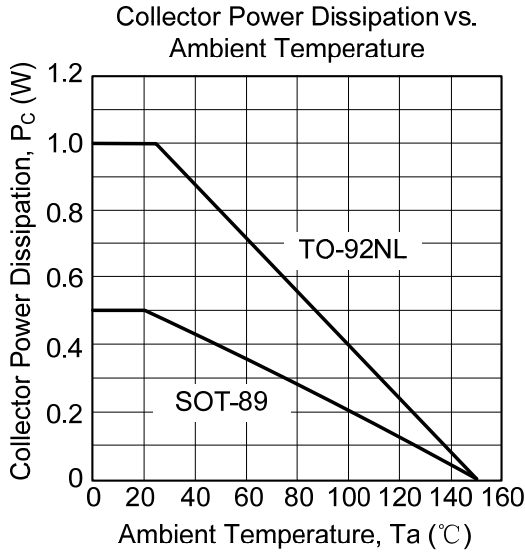
■ ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=-10\mu A, I_E=0$	-60			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=-2mA, I_B=0$	-50			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E=-10\mu A, I_C=0$	-5			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=-20V, I_E=0$			-0.1	$\mu A$
DC Current Gain	$h_{FE1}$	$V_{CE}=-10V, I_C=-500mA$	85		340	
	$h_{FE2}$	$V_{CE}=-5V, I_C=-1A$	50			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=-0.5A, I_B=-50mA$		-0.2	-0.4	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=-0.5A, I_B=-50mA$		-0.85	-1.2	V
Current Gain Bandwidth Product	$f_T$	$V_{CE}=-10V, I_B=50mA, f=200MHz$		200		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=-10V, I_E=0, f=1MHz$		20	30	pF

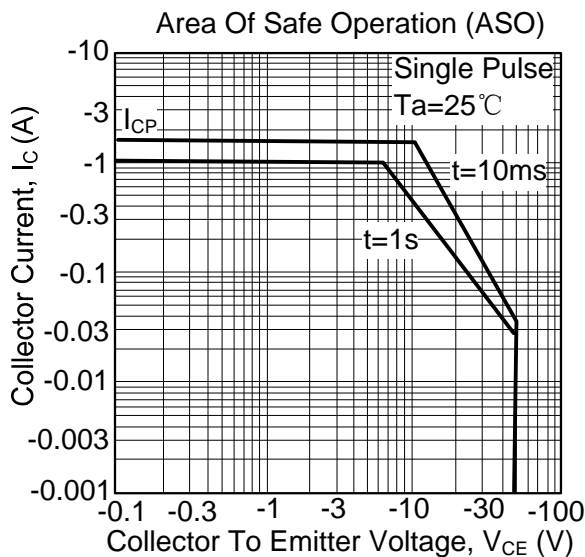
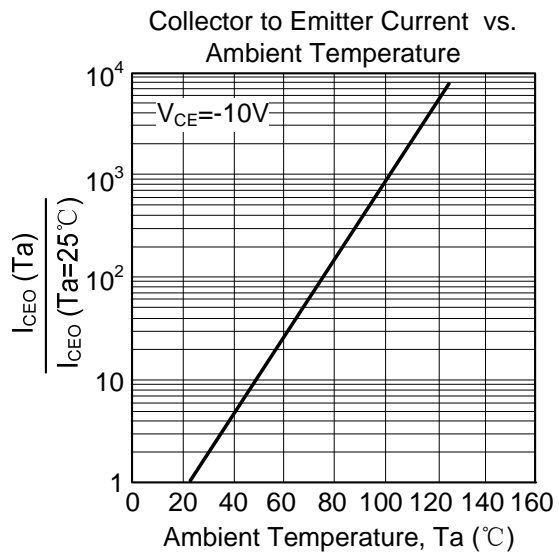
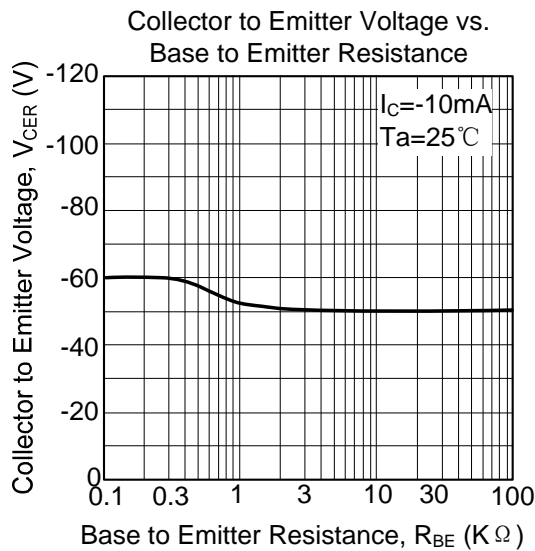
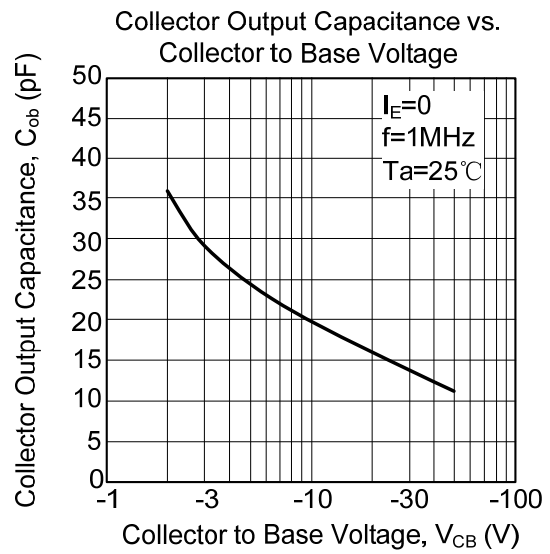
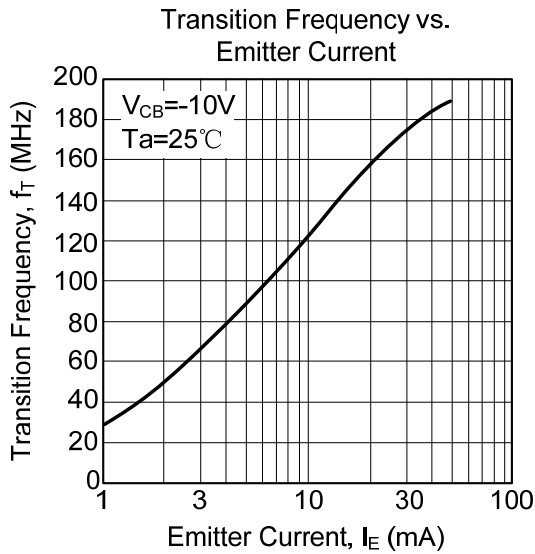
■ CLASSIFICATION OF  $h_{FE1}$

RANK	Q	R	S
RANGE	85-170	120-240	170-340

■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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