2SA684

PNP SILICON TRANSISTOR

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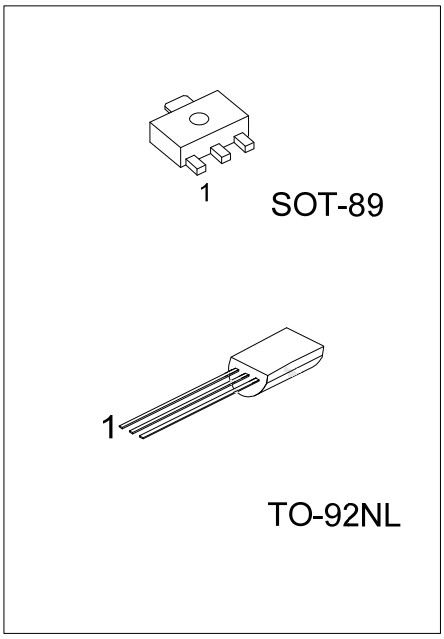


Lead-free: 2SA684L
Halogen-free: 2SA684G

■ DESCRIPTION

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

■ FEATURES

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

■ 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

2SA684L-x-AB3-R
(1)Packing Type
(2)Package Type
(3)Rank
(4)Lead Plating

(1) B: Tape Box, K: Bulk, R: Tape Reel
(2) AB3: SOT-89, T9N: TO-92NL
(3) x: refer to Classification of h_{FE1}
(4) G: Halogen, L: Lead Free , Blank: Pb/Sn

■ ABSOLUTE MAXIMUM RATINGS (Ta=25℃ ,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	P_C	500	mW
	TO-92NL		1000	mW
Junction Temperature		T_J	+150	℃
Storage Temperature		T_{STG}	-55 ~ +150	℃

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℃, unless otherwise specified)

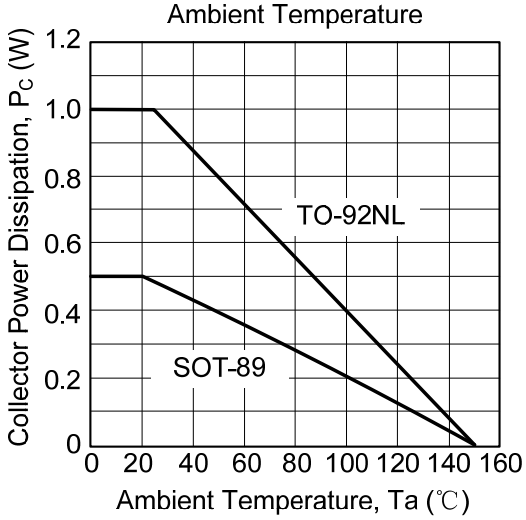
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=-10μA, I_E=0	-60			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=-2mA, I_B=0	-50			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=-10μA, I_C =0	-5			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=-20V, I_E=0			-0.1	μA
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}

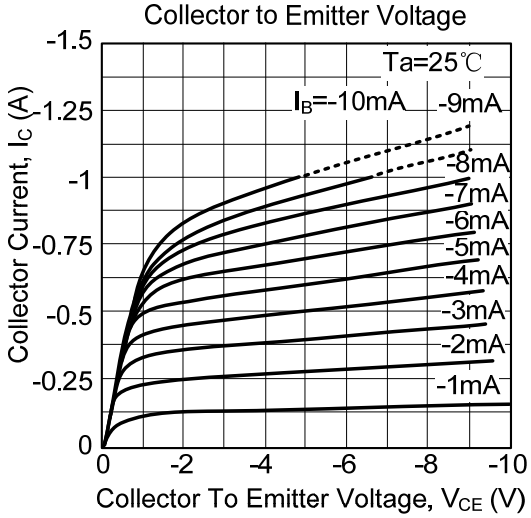
RANK	Q	R	S
RANGE	85-170	120-240	170-340

■ TYPICAL CHARACTERISTICS

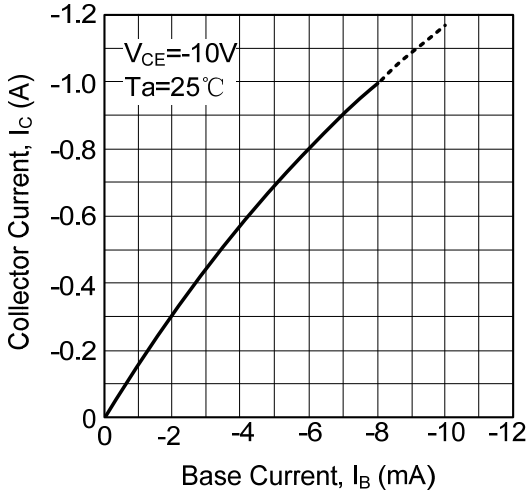
Collector Power Dissipation vs. Ambient Temperature



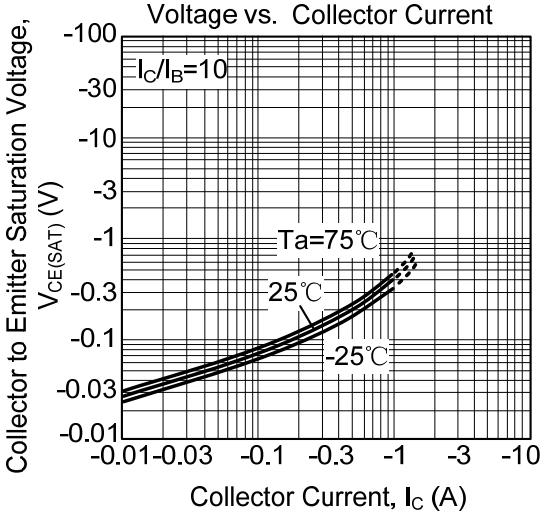
Collector Current vs. Collector to Emitter Voltage



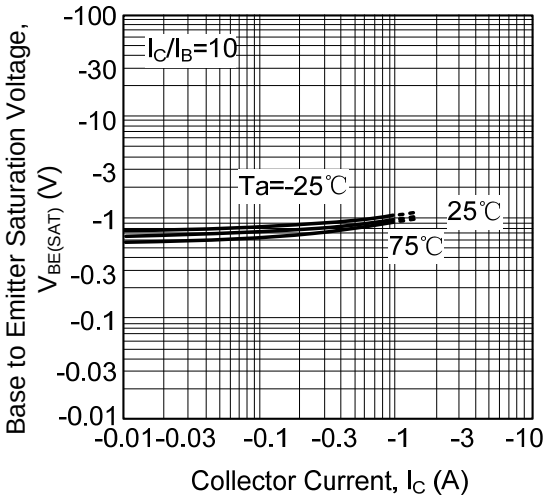
Collector Current vs. Base Current



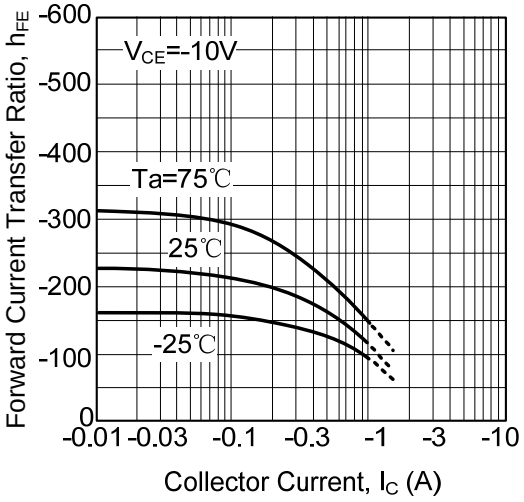
Collector to Emitter Saturation Voltage vs. Collector Current



Base to Emitter Saturation Voltage vs. Collector Current

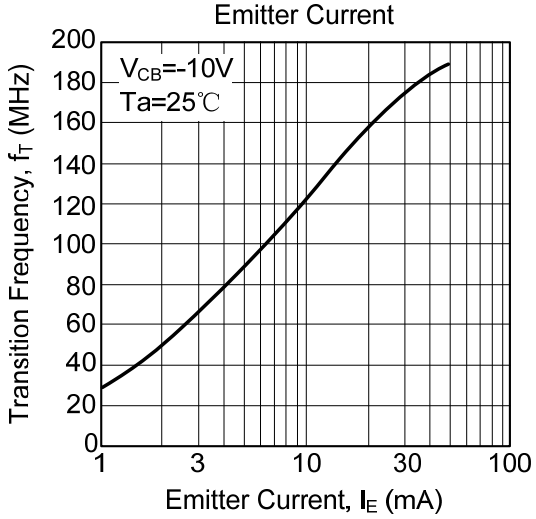


Forward Current Transfer Ratio vs. Collector Current

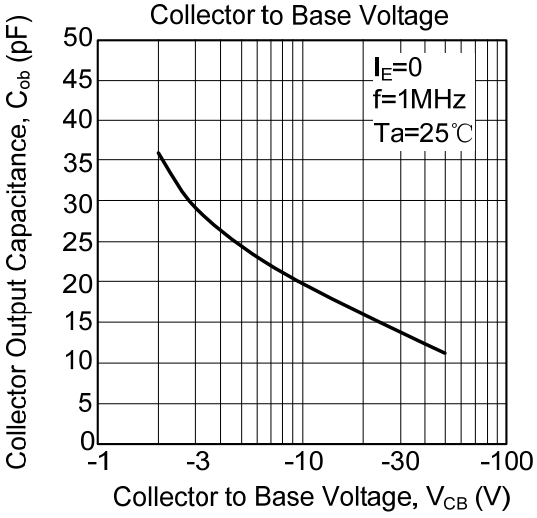


■ TYPICAL CHARACTERISTICS(Cont.)

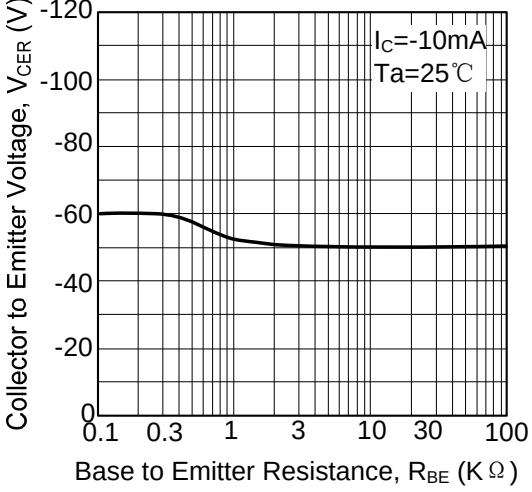
Transition Frequency vs. Emitter Current



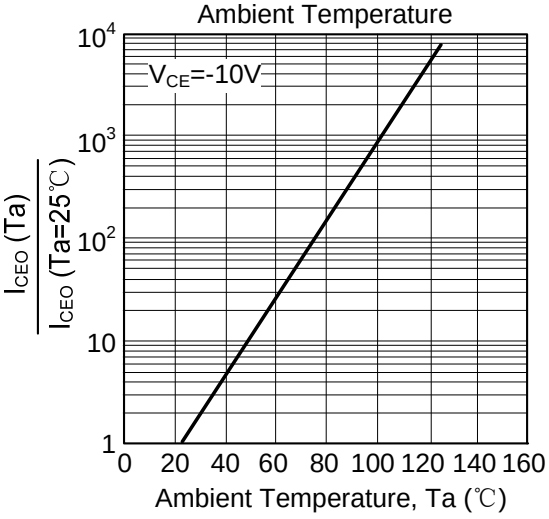
Collector Output Capacitance vs. Collector to Base Voltage



Collector to Emitter Voltage vs. Base to Emitter Resistance



Collector to Emitter Current vs. Ambient Temperature



Area Of Safe Operation (ASO)