2SC1384

NPN SILICON TRANSISTOR

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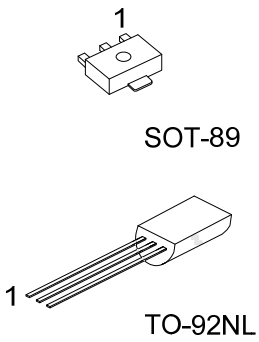


■ DESCRIPTION

The UTC **2SC1384** is power amplifier and driver.

■ FEATURES

* Low $V_{CE(SAT)}$
* 2~3W output in complementary pair with 2SA684

■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen-Free		1	2	3	
2SC1384L-x-AB3-R	2SC1384G-x-AB3-R	SOT-89	B	C	E	Tape Reel
2SC1384L-x-T9N-B	2SC1384G-x-T9N-B	TO-92NL	E	C	B	Tape Box
2SC1384L-x-T9N-K	2SC1384G-x-T9N-K	TO-92NL	E	C	B	Bulk
2SC1384L-x-T9N-R	2SC1384G-x-T9N-R	TO-92NL	E	C	B	Tape Reel

2SC1384L-x-AB3-B
(1)Packing Type
(2)Package Type
(3)Rank
(4)Lead Free

(1) K: Bulk, T: Tube, R: Tape Reel
(2) AB3: SOT-89, T9N: TO-92NL
(3) x: refer to Classification of h_{FE}
(4)G: Halogen Free, L: Lead Free

■ ABSOLUTE MAXIMUM RATINGS (T_A=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 (T_A=25℃)	P_C	1000	mW
Junction Temperature	T_J	125	℃
Operating Temperature	T_{OPR}	-20 ~ +85	℃
Storage Temperature	T_{STG}	-40 ~ +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 (T_A=25℃, unless otherwise specified)

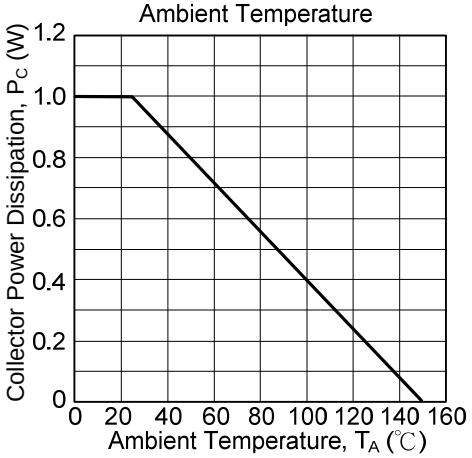
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=10μA, I_E=0	60			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=2mA, I_B=0	50			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=10μA, I_C=0	5			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=20V, I_E=0			0.1	μA
DC Current Gain	h_{FE1}	V_{CE}=10V, I_C=500mA	85	160	340	
	h_{FE2}	V_{CE}=5V, I_C=1A	50	100		
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		200		MHz
Output Capacitance	C_{OB}	V_{CB}=10V, I_E=0, f=1MHz		11	20	pF

■ CLASSIFICATION OF h_{FE}

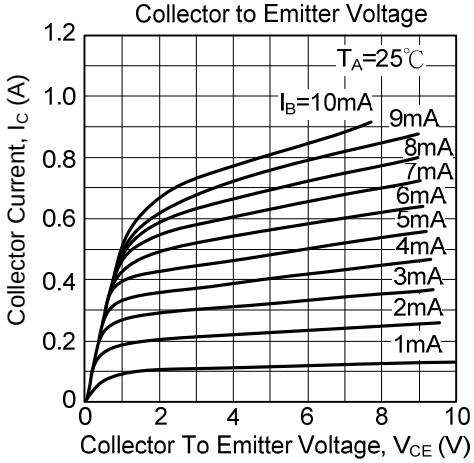
RANK	Q	R	S
RANGE	85-170	120-240	170-340

■ TYPICAL CHARACTERISTICS

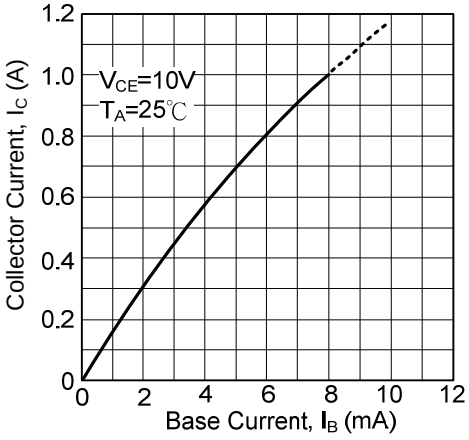
Collector Power Dissipation vs. Ambient Temperature



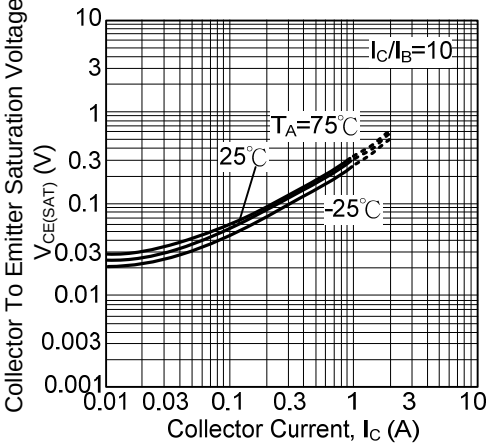
Collector Current vs. Collector to Emitter Voltage



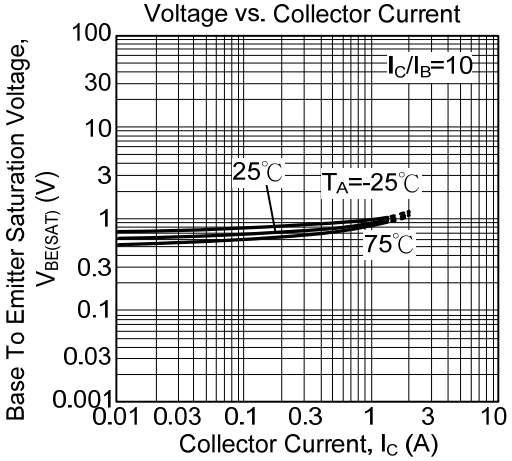
Collector Current vs. Base Current



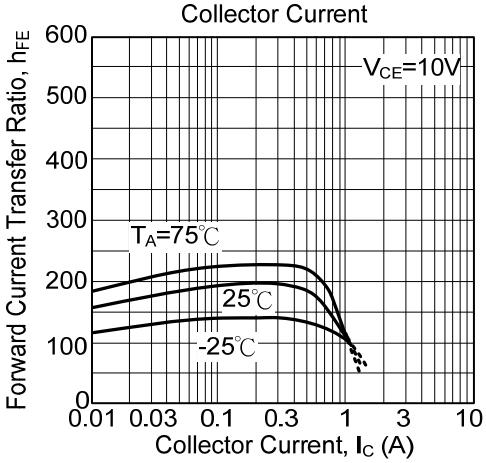
Collector to Emitter Saturation Voltage vs. Collector Current



Base to Emitter Saturation Voltage vs. Collector Current

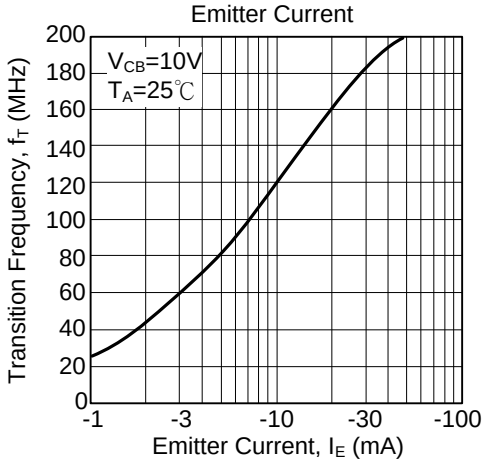


Forward Current Transfer Ratio vs. Collector Current

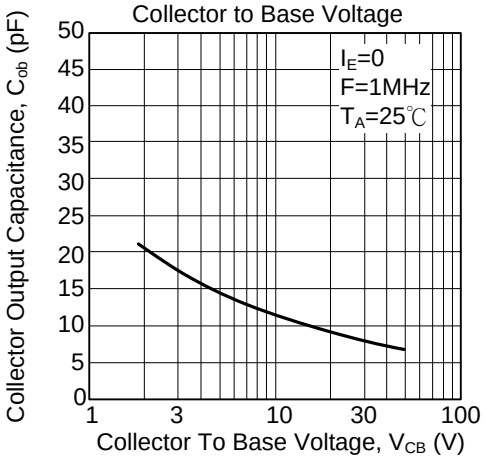


■ TYPICAL CHARACTERISTICS(Cont.)

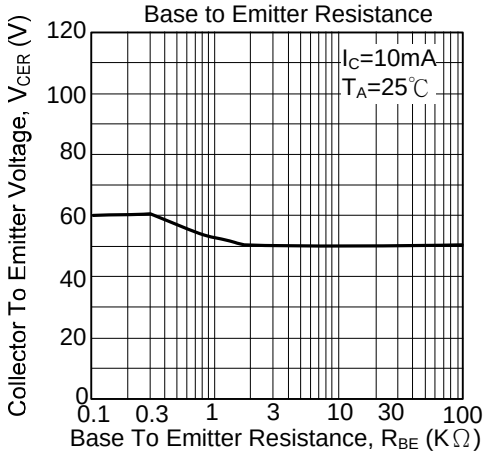
Transition Frequency vs. Emitter Current



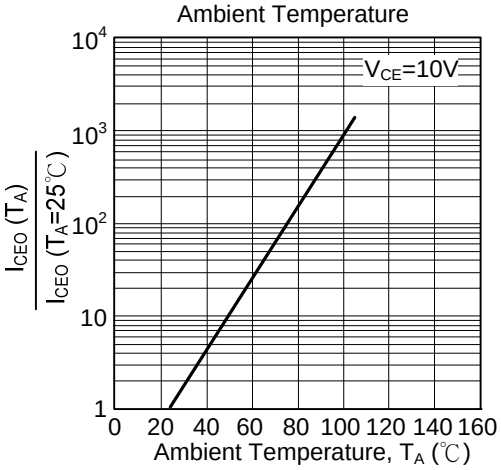
Collector Output Capacitance vs. Collector to Base Voltage



Collector to Emitter Voltage vs. Base to Emitter Resistance



Collector to Emitter Current vs. Ambient Temperature



Area Of Safe Operation (ASO)