



# 2SC1384

## NPN SILICON TRANSISTOR

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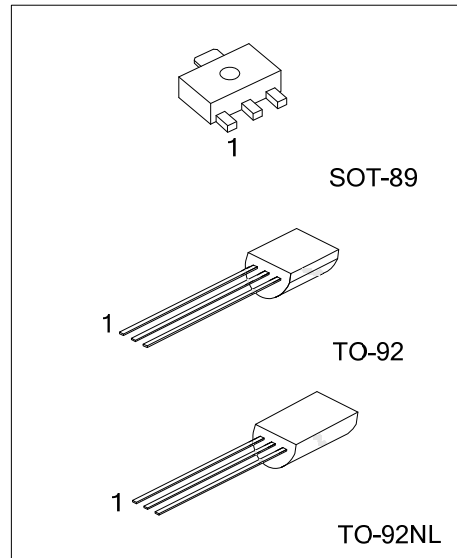
■ DESCRIPTION

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	
-	2SC1384G-x-AB3-R	SOT-89	B	C	E	Tape Reel
2SC1384L-x-T92-B	2SC1384G-x-T92-B	TO-92	E	C	B	Tape Box
2SC1384L-x-T92-K	2SC1384G-x-T92-K	TO-92	E	C	B	Bulk
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

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

<p>2SC1384G-x-AB3-B</p>	<p>(1) K: Bulk, T: Tube, R: Tape Reel                  (2) AB3: SOT-89, T92: TO-92, T9N: TO-92NL                  (3) x: refer to Classification of <math>h_{FE}</math>                  (4) G: Halogen Free and Lead Free, L: Lead Free</p>
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■ MARKING

SOT-89	TO-92	TO-92NL

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

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		$V_{CBO}$	60	V
Collector-Emitter Voltage		$V_{CEO}$	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 ( $T_A=25^\circ\text{C}$ )	SOT-89	$P_C$	500	mW
	TO-92/TO-92NL		1000	mW
Junction Temperature		$T_J$	125	$^\circ\text{C}$
Operating Temperature		$T_{OPR}$	-20 ~ +85	$^\circ\text{C}$
Storage Temperature		$T_{STG}$	-40 ~ +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.

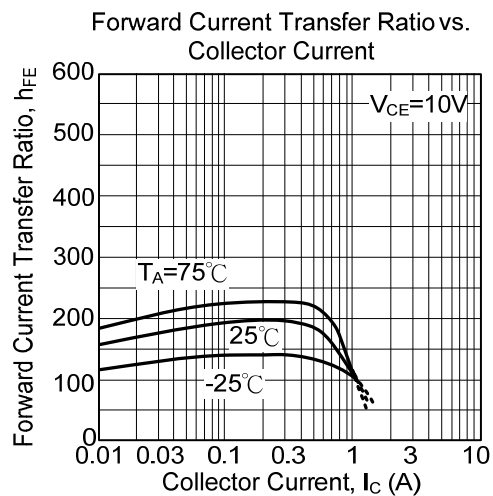
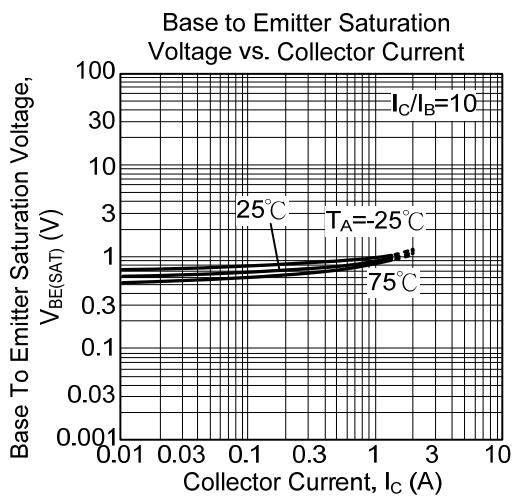
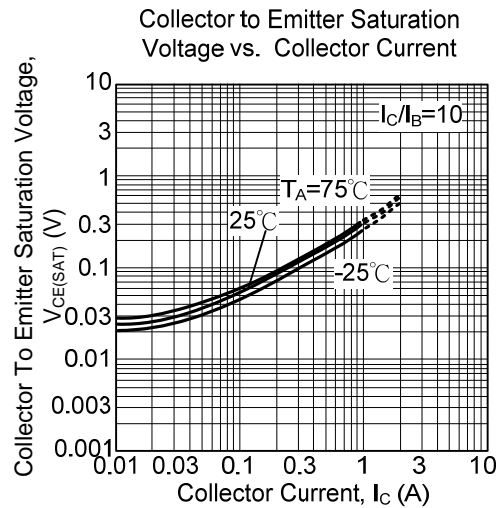
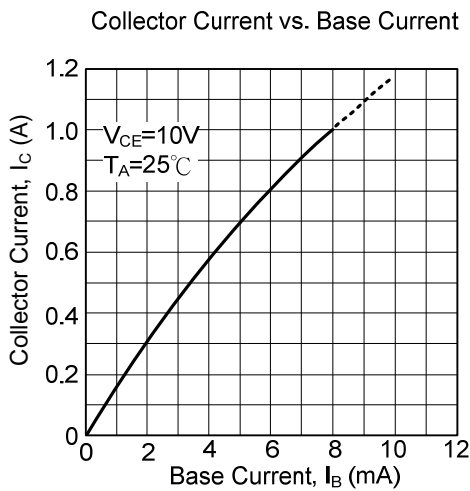
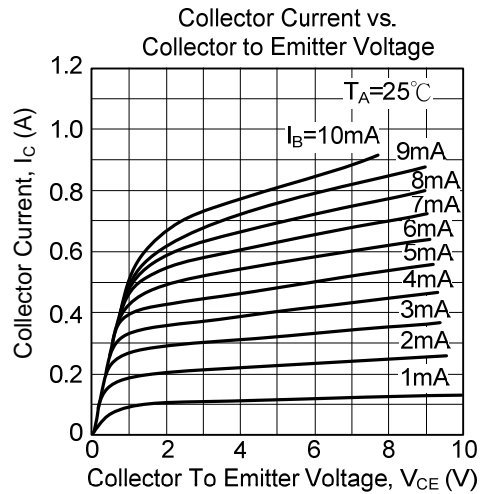
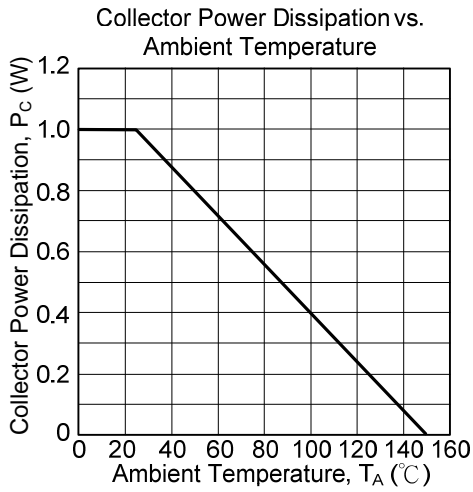
■ ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=10\mu\text{A}$ , $I_E=0$	60			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=2\text{mA}$ , $I_B=0$	50			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E=10\mu\text{A}$ , $I_C=0$	5			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=20\text{V}$ , $I_E=0$			0.1	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE}=10\text{V}$ , $I_C=500\text{mA}$	85	160	340	
	$h_{FE2}$	$V_{CE}=5\text{V}$ , $I_C=1\text{A}$	50	100		
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=0.5\text{A}$ , $I_B=50\text{mA}$		0.2	0.4	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=0.5\text{A}$ , $I_B=50\text{mA}$		0.85	1.2	V
Current Gain Bandwidth Product	$f_T$	$V_{CE}=10\text{V}$ , $I_B=50\text{mA}$		200		MHz
Output Capacitance	$C_{OB}$	$V_{CB}=10\text{V}$ , $I_E=0$ , $f=1\text{MHz}$		11	20	pF

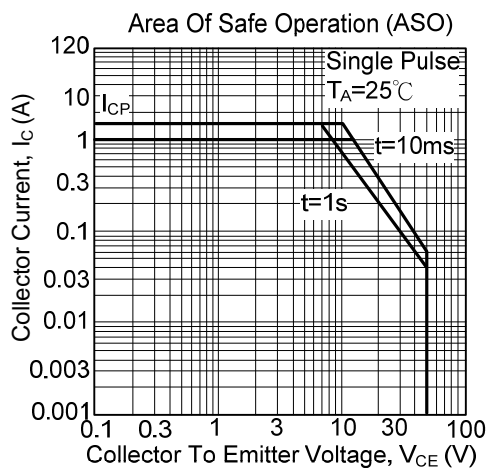
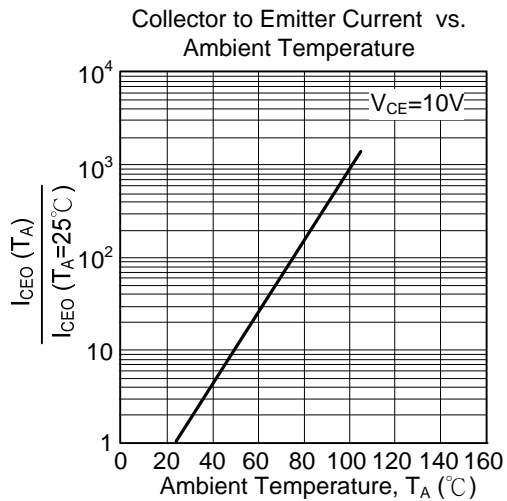
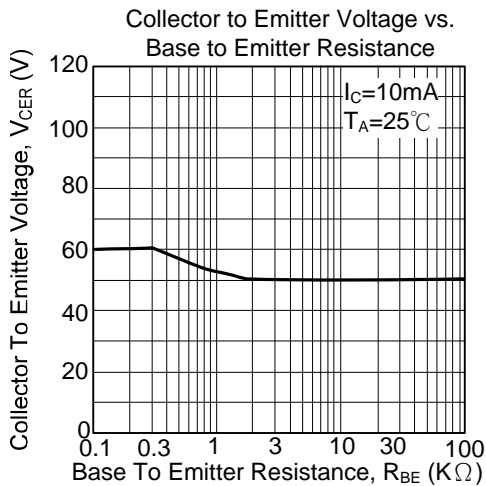
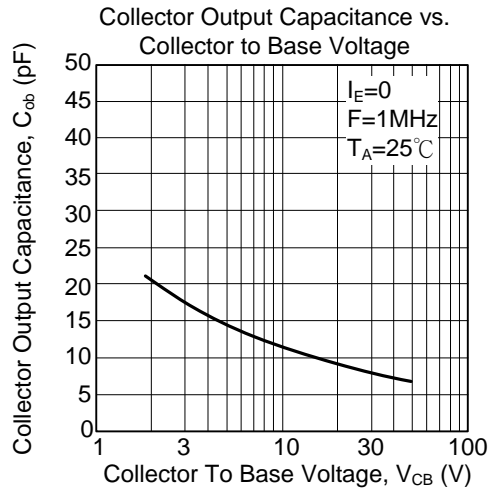
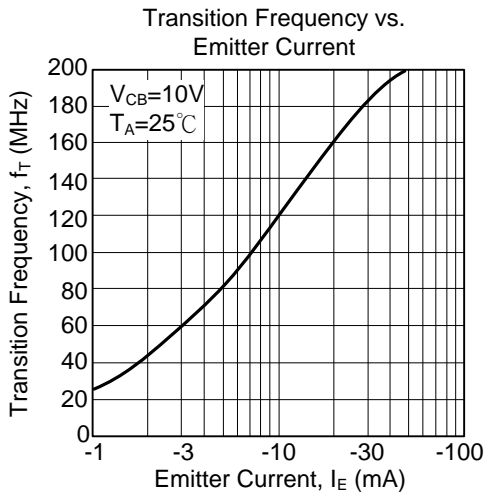
■ CLASSIFICATION OF  $h_{FE}$

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

## TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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