



# 2SB772

## PNP SILICON TRANSISTOR

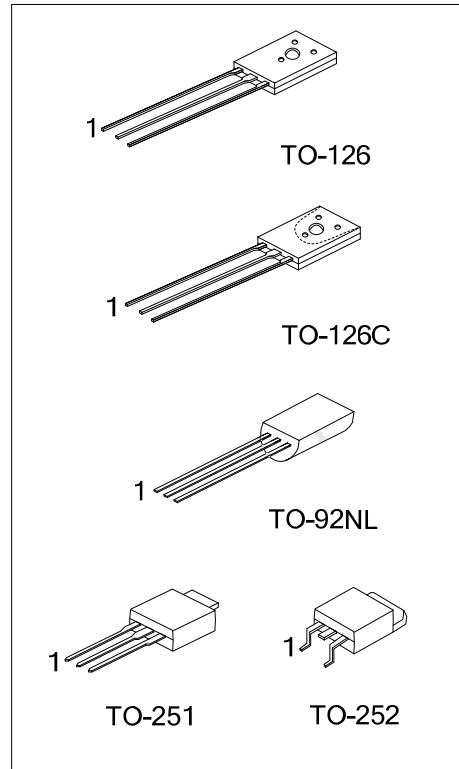
### MEDIUM POWER LOW VOLTAGE TRANSISTOR

■ DESCRIPTION

The UTC **2SB772** is a medium power low voltage transistor, designed for audio power amplifier, DC-DC converter and voltage regulator.

■ FEATURES

- \* High current output up to 3A
- \* Low saturation voltage
- \* Complement to 2SD882



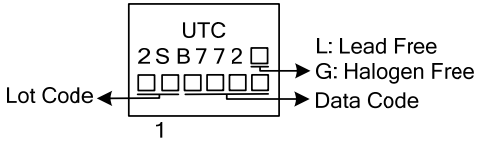
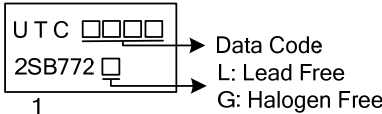
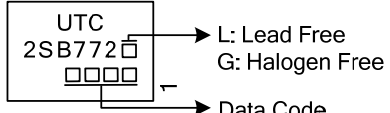
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SB772L-x-T60-K	2SB772G-x-T60-K	TO-126	E	C	B	Bulk
2SB772L-x-T6C-K	2SB772G-x-T6C-K	TO-126C	E	C	B	Bulk
2SB772L-x-TM3-T	2SB772G-x-TM3-T	TO-251	B	C	E	Tube
2SB772L-x-TN3-R	2SB772G-x-TN3-R	TO-252	B	C	E	Tape Reel
2SB772L-x-T9N-B	2SB772G-x-T9N-B	TO-92NL	E	C	B	Tape Box
2SB772L-x-T9N-K	2SB772G-x-T9N-K	TO-92NL	E	C	B	Bulk

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

<p>2SB772L-x-T60-K</p> <p>(1)Packing Type (2)Package Type (3)Rank (4)Lead Free</p>	<p>(1) K: Bulk, T: Tube, R: Tape Reel (2) T60: TO-126, T6C: TO-126C, TM3: TO-251, TN3: TO-252, T9N: TO-92NL (3) x: refer to Classification of <math>h_{FE2}</math> (4) L: Lead Free, G: Halogen Free</p>
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■ MARKING

PACKAGE	MARKING
TO-251 / TO-252	 <p>                     UTC                      2SB772                      Lot Code → Data Code                      L: Lead Free                      G: Halogen Free                 </p>
TO-126 / TO-126C	 <p>                     UTC                      Data Code                      2SB772                      L: Lead Free                      G: Halogen Free                 </p>
TO-92NL	 <p>                     UTC                      2SB772                      L: Lead Free                      G: Halogen Free                      Data Code                 </p>

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

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		$V_{CBO}$	-40	V
Collector-Emitter Voltage		$V_{CEO}$	-30	V
Emitter-Base Voltage		$V_{EBO}$	-7	V
Collector Current	DC	$I_C$	-3	A
	Pulse	$I_{CP}$	-7	A
Base Current		$I_B$	-0.6	A
Collector Dissipation	TO-92NL	$P_C$	0.5	W
	TO-126/TO-126C		1	
	TO-251/TO-252		1	
Junction Temperature		$T_J$	+150	$^\circ\text{C}$
Storage Temperature		$T_{STG}$	-55 ~ +150	$^\circ\text{C}$

Notes: 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.

■ THERMAL DATA

PARAMETER		SYMBOL	RATING	UNIT
Junction to Case	TO-126/ TO-126C	$\theta_{JC}$	12.5	$^\circ\text{C/W}$
	TO-251/ TO-252		12.5	
	TO-92NL		25	

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=-100\mu\text{A}, I_E=0$	-40			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=-1\text{mA}, I_B=0$	-30			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E=-100\mu\text{A}, I_C=0$	-7			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=-30\text{V}, I_E=0$			-1000	nA
Collector Cut-Off Current	$I_{CEO}$	$V_{CE}=-30\text{V}, I_B=0$			-1000	nA
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=-5\text{V}, I_C=0$			-1000	nA
DC Current Gain (Note)	$h_{FE1}$	$V_{CE}=-2\text{V}, I_C=-20\text{mA}$	30	200		
	$h_{FE2}$	$V_{CE}=-2\text{V}, I_C=-1\text{A}$	100	150	400	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=-2\text{A}, I_B=-0.2\text{A}$		-0.3	-0.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=-2\text{A}, I_B=-0.2\text{A}$		-1.0	-2.0	V
Current Gain Bandwidth Product	$f_T$	$V_{CE}=-5\text{V}, I_C=-0.1\text{A}$		80		MHz
Output Capacitance	$C_{OB}$	$V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$		45		pF

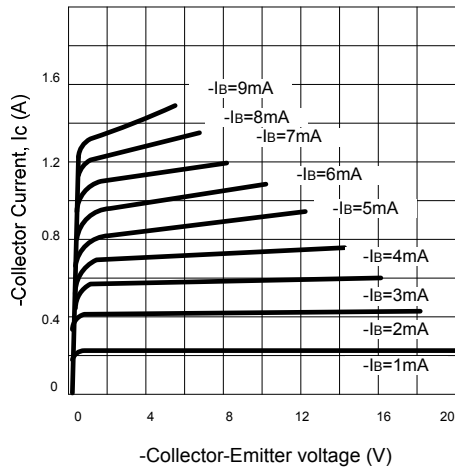
Note: Pulse test:  $P_W \leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$

■ CLASSIFICATION OF  $h_{FE2}$

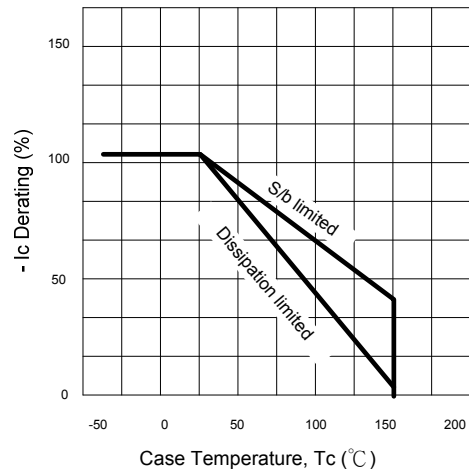
RANK	Q	P	E
RANGE	100 ~ 200	160 ~ 320	200 ~ 400

## TYPICAL CHARACTERISTICS

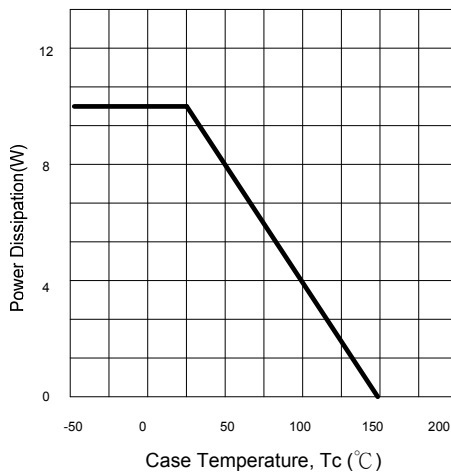
Static Characteristics



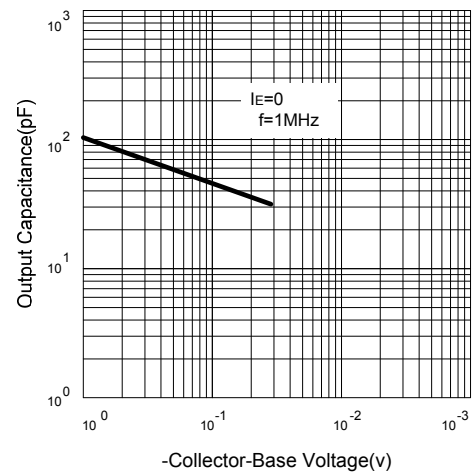
Derating Curve of Safe Operating Areas



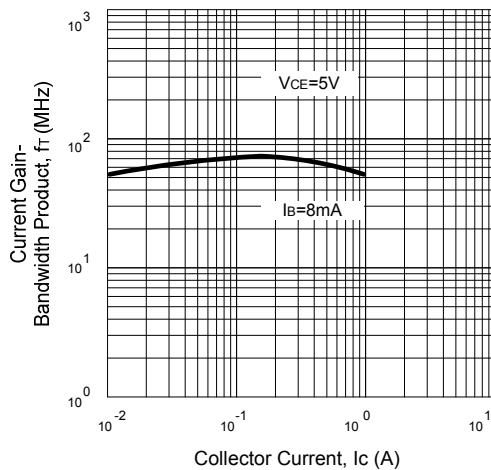
Power Derating



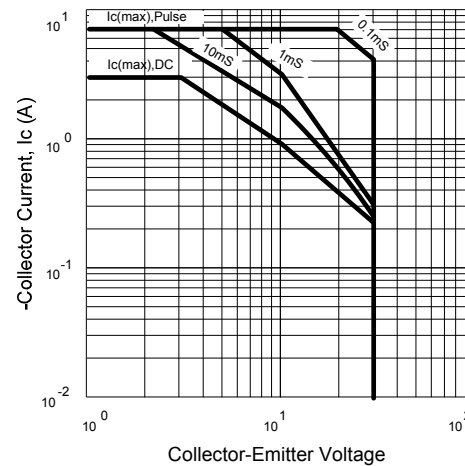
Collector Output Capacitance



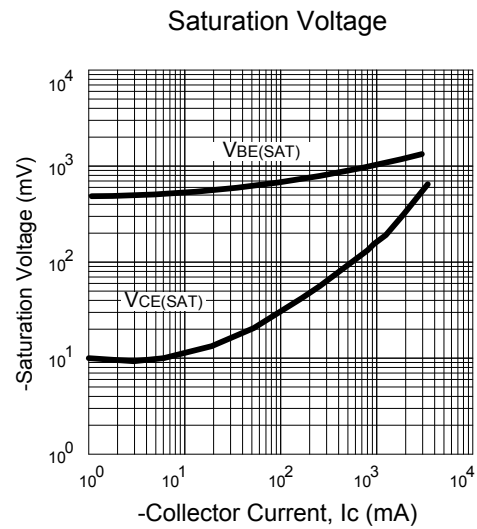
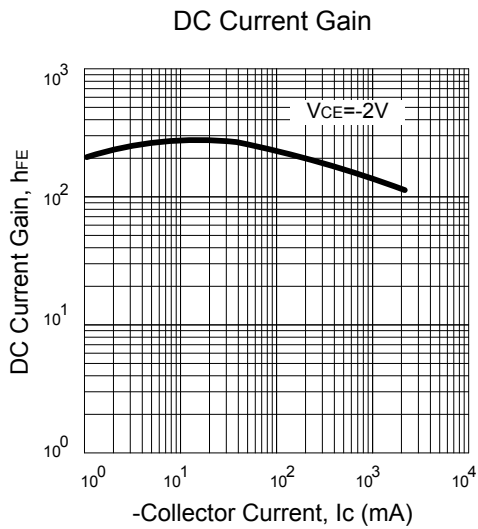
Current Gain-Bandwidth Product



Safe Operating Area



■ TYPICAL CHARACTERISTICS(Cont.)



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