

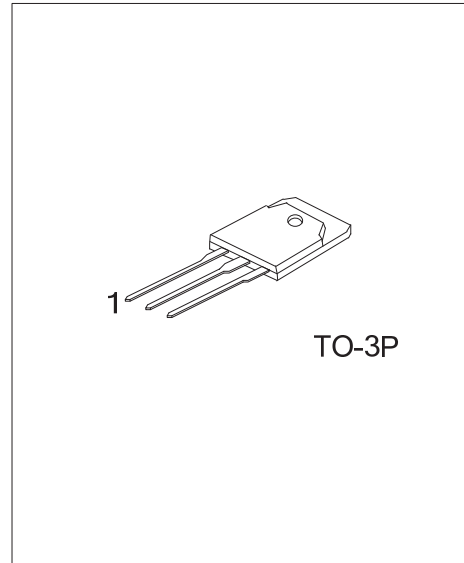
# 2SB688

## PNP SILICON TRANSISTOR

### SILICON PNP TRANSISTORS

#### DESCRIPTION

The UTC **2SB688** is a silicon PNP transistor in TO-3 metal case. It is intended for power switching circuits, series and shunt regulators, output stages and high fidelity amplifiers.



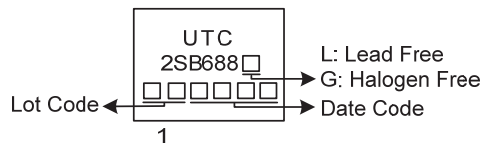
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SB688L-x-T3P-T	2SB688G-x-T3P-T	TO-3P	B	C	E	Tube

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

<p>2SB688G-x-T3P-T</p>	<p>(1) T: Tube                  (2) T3P: TO-3P                  (3) x: reference to Classification of <math>h_{FE}</math>                  (4) G: Halogen Free and Lead Free, L: Lead Free</p>
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#### MARKING



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

PARAMETERS	SYMBOL	RATINGS	UNITS
Collector-Base Voltage	$V_{CBO}$	-120	V
Collector-Emitter Voltage	$V_{CEO}$	-120	V
Emitter Base Voltage	$V_{EBO}$	-5	V
Collector Current	$I_C$	-10	A
Base Current	$I_B$	-1	A
Collector Power Dissipation ( $T_C=25^\circ\text{C}$ )	$P_C$	80	W
Max. Operating Junction Temperature	$T_J$	+150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-40 ~ +200	$^\circ\text{C}$

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 Cut-off Current	$I_{CBO}$	$V_{CB} = -120\text{V}, I_E = 0$			-10	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = -5\text{V}, I_C = 0$			-10	$\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -50\text{mA}, I_B = 0$	-120			V
DC Current Gain	$h_{FE}$	$V_{CE} = -5\text{V}, I_C = -1\text{A}$	55		160	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -5\text{A}, I_B = -0.5\text{A}$			-2.5	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE} = -5\text{A}, I_C = -5\text{A}$			-1.5	V
Transition Frequency	$f_T$	$V_{CE} = -5\text{A}, I_C = -1\text{A}$		10		MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = -10\text{V}, I_E = 0, f=1\text{MHz}$		280		pF

■ **CLASSIFICATION OF  $h_{FE}$**

RANK	R	O
RANGE	55 ~ 110	80 ~ 160

## TYPICAL CHARACTERISTICS

