



## 2SB1188

## PNP SILICON TRANSISTOR

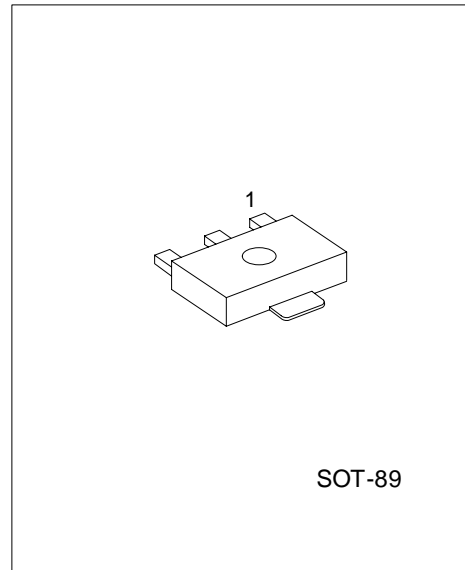
### MEDIUM POWER LOW VOLTAGE TRANSISTOR

#### DESCRIPTION

The UTC 2SB1188 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



\*Pb-free plating product number: 2SB1188L

#### ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
2SB1188-x-AB3-R	2SB1188L-x-AB3-R	SOT-89	B	C	E	Tape Reel

<p>2SB1188L-x-AB3-R</p> <ul style="list-style-type: none"> <li>(1) Packing Type</li> <li>(2) Package Type</li> <li>(3) Rank</li> <li>(4) Lead Plating</li> </ul>	<ul style="list-style-type: none"> <li>(1) R: Tape Reel</li> <li>(2) AB3: SOT-89</li> <li>(3) x: refer to Classification of <math>h_{FE2}</math></li> <li>(4) L: Lead Free Plating, Blank: Pb/Sn</li> </ul>
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■ ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector -Base Voltage	$V_{CB0}$	-40	V
Collector -Emitter Voltage	$V_{CEO}$	-30	V
Emitter -Base Voltage	$V_{EBO}$	-5	V
Peak Collector Current	$I_{CM}$	-7	A
DC Collector Current	$I_C$	-3	A
Base Current	$I_B$	-0.6	A
Power Dissipation	$P_D$	0.5	W
Junction Temperature	$T_J$	+150	
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 (Ta= 25 °C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=-30V, I_E=0$			-1000	nA
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=-3V, I_C=0$			-1000	nA
DC Current Gain(Note 1)	$h_{FE1}$	$V_{CE}=-2V, I_C=-20mA$	30	200		
	$h_{FE2}$	$V_{CE}=-2V, I_C=-1A$	100	150	400	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=-2A, I_B=-0.2A$		-0.3	-0.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=-2A, I_B=-0.2A$		-1.0	-2.0	V
Current Gain Bandwidth Product	$f_T$	$V_{CE}=-5V, I_C=-0.1A$		80		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=-10V, I_E=0, f=1MHz$		45		pF

Note 1: Pulse test:  $P_W < 300\mu s$ , Duty Cycle  $< 2\%$

■ CLASSIFICATION OF  $h_{FE2}$

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

## TYPICAL CHARACTERISTICS

Fig.1 Static characteristics

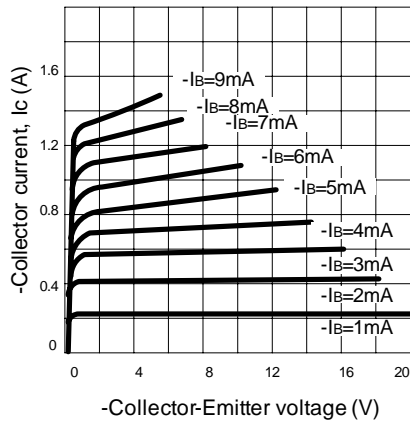


Fig.2 Derating curve of safe operating areas

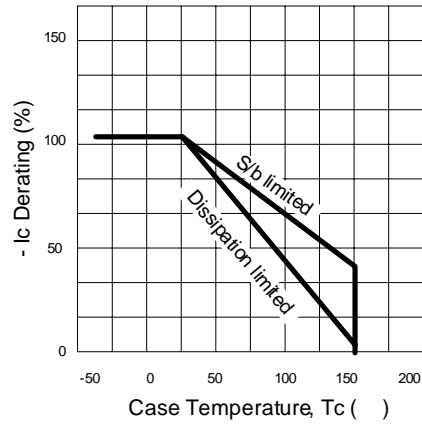


Fig.3 Power Derating

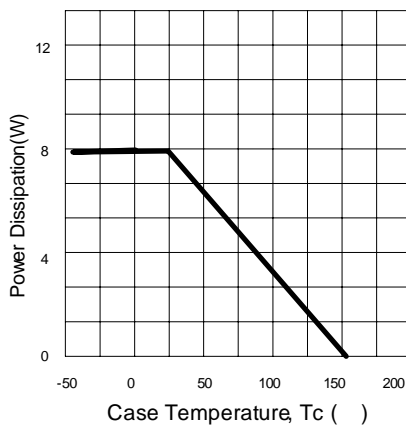


Fig.4 Collector Output capacitance

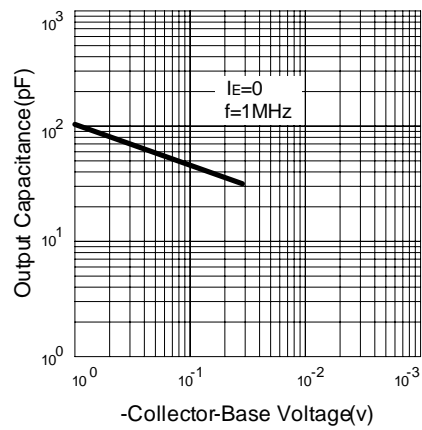


Fig.5 Current gain-bandwidth product

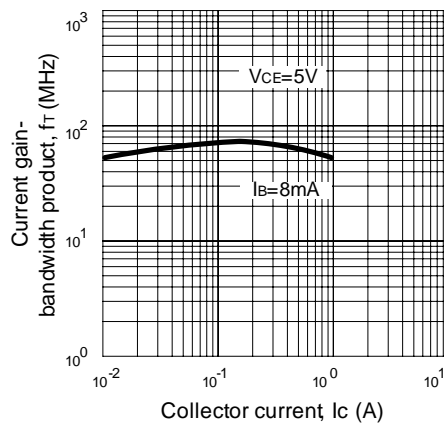
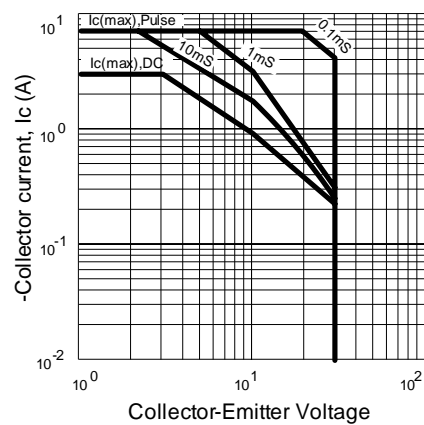


Fig.6 Safe Operating Area



■ TYPICAL CHARACTERISTICS(cont.)

Fig.7 DC current gain

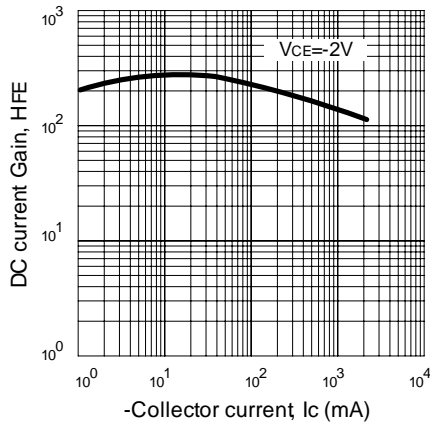
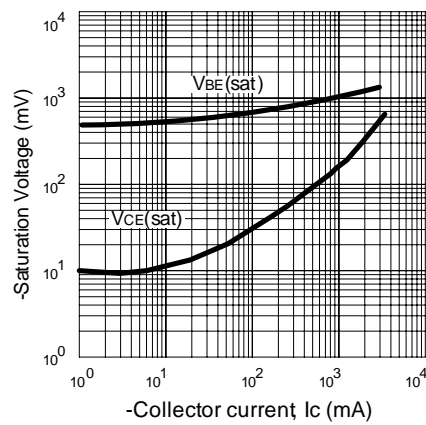


Fig.8 Saturation Voltage



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