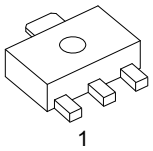
2SB1188

PNP SILICON TRANSISTOR

MEDIUM POWER LOW VOLTAGE TRANSISTOR



SOT-89

Lead-free: 2SB1188L
Halogen-free: 2SB1188G

■ 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

■ ORDERING INFORMATION

Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free Plating	Halogen Free		1	2	3	
2SB1188-x-AB3-R	2SB1188L-x-AB3-R	2SB1188G-x-AB3-R	SOT-89	B	C	E	Tape Reel

2SB1188L-x-AB3-R
(1)Packing Type
(2)Package Type
(3)Rank
(4)Lead Plating

(1) R: Tape Reel
(2) AB3: SOT-89
(3) x: refer to Classification of h_{FE2}
(4) G: Halogen Free, L: Lead Free Plating, Blank: Pb/Sn

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector -Base Voltage	V_{CBO}	-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	°C
Storage Temperature	T_{STG}	-40~+150	°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 (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Base Breakdown Voltage	BV_{CBO}	I_C= -50μA	-40			V
Collector Emitter Breakdown Voltage	BV_{CEO}	I_C= -1mA	-30			V
Emitter Base Breakdown Voltage	BV_{EBO}	I_E=-50μA	-5			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=-30V,I_E=0			-1	μA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=-4V,I_C=0			-1	μA
DC Current Gain(Note)	h_{FE1}	V_{CE}=-2V,Ic=-20mA	30	200		
	h_{FE2}	V_{CE}=-2V,Ic=-1A	100	150	400	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	Ic=-2A,I_B=-0.2A		-0.3	-0.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	Ic=-2A,I_B=-0.2A		-1.0	-2.0	V
Current Gain Bandwidth Product	f_T	V_{CE}=-5V,Ic=-0.1A		80		MHz
Output Capacitance	Cob	V_{CB}=-10V,I_E=0,f=1MHz		45		pF

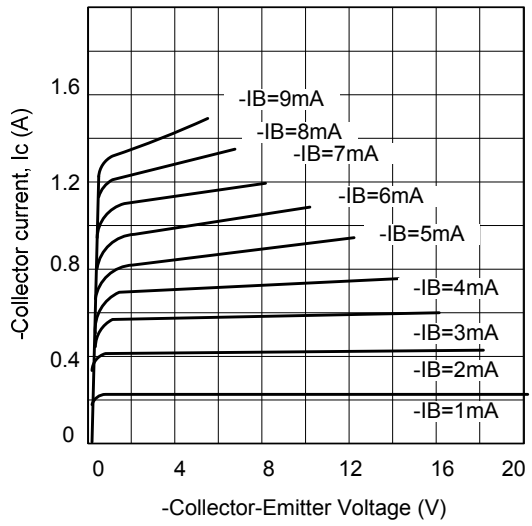
Note: Pulse test: P_W<300μs, Duty Cycle<2%

■ CLASSIFICATION OF h_{FE2}

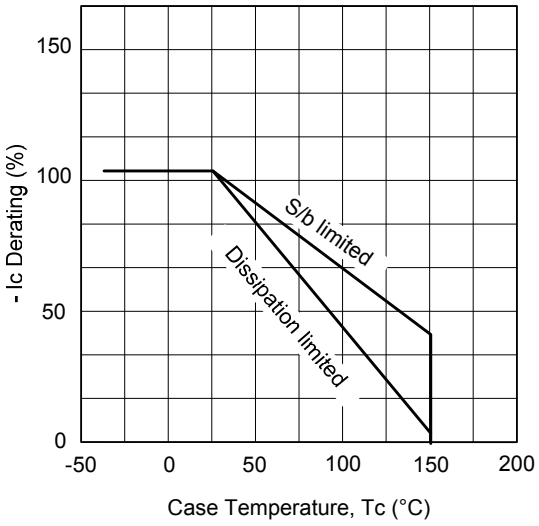
RANK	Q	P	E
RANGE	100 ~ 200	160 ~ 320	200 ~ 400

■ TYPICAL CHARACTERICS

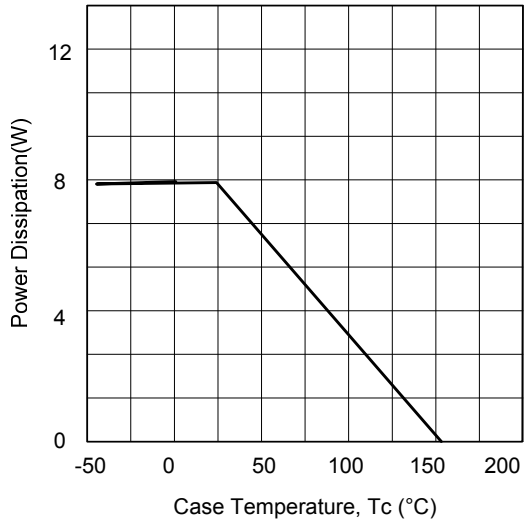
Static Characteristics



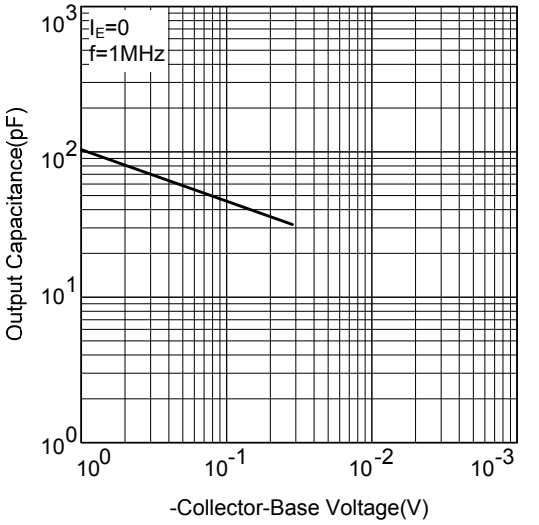
Derating Curve of Safe Operating Areas



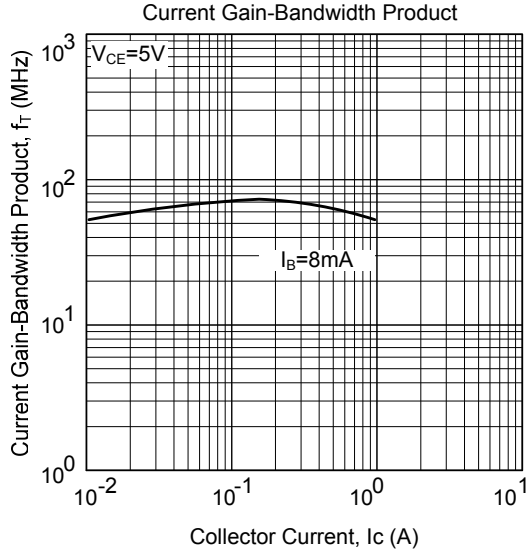
Power Derating



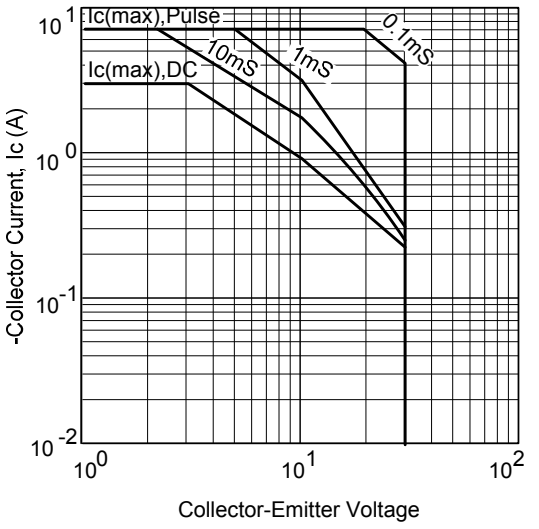
Collector Output Capacitance



Current Gain-Bandwidth Product



Safe Operating Area



■ TYPICAL CHARACTERICS(cont.)