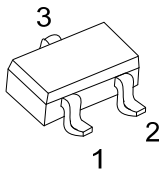
B772SS

PNP SILICON TRANSISTOR

MEDIUM POWER LOW VOLTAGE TRANSISTOR



SOT-23

■ DESCRIPTION

The UTC **B772SS** 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 D882SS

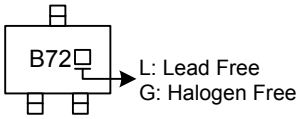
■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
B772SSL-x-AE3-R	B772SSG-x-AE3-R	SOT-23	B	E	C	Tape Reel

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

B772SSG-x-AE3-R (1) Packing Type (2) Package Type (3) Rank (4) Green Package	(1) R: Tape Reel (2) AE3: SOT-23 (3) x: refer to Classification of h_{FE2} (4) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified) (Note)

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
Collector Current	Pulse	I_{CP}	-7	A
	DC	I_C	-3	A
Base Current		I_B	-0.6	A
Collector Dissipation	T_C=25°C	P_D	10	W
	T_A=25°C		350	mW
Junction Temperature		T_J	+150	°C
Operating Temperature		T_{OPR}	-40 ~ +150	°C
Storage Temperature		T_{STG}	-55 ~ +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.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	357	°C/W
Junction to Case	θ_{JC}	104	°C/W

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified) (Note)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=-100μA, I_E=0	-40			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=-1mA, I_B=0	-30			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=-100μA, I_C=0	-5			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=-30V ,I_E=0			-1000	nA
Collector Cut-Off Current	I_{CEO}	V_{CE}=-30V ,I_B=0			-1000	nA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=-3V, I_C=0			-1000	nA
DC Current Gain(Note)	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

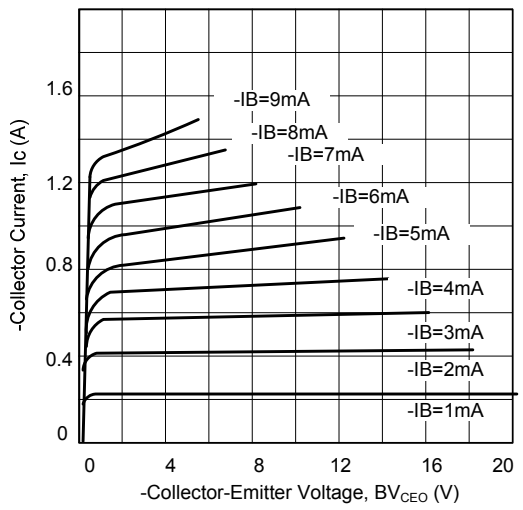
Note: Pulse test: P_W < 300μs, Duty Cycle < 2%.

■ CLASSIFICATION OF h_{FE2}

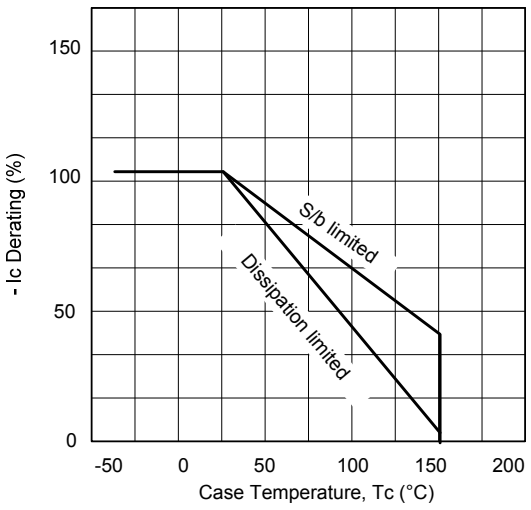
RANK	Q	P	E
RANGE	100 ~ 200	160 ~ 320	200 ~ 400

■ TYPICAL CHARACTERICS

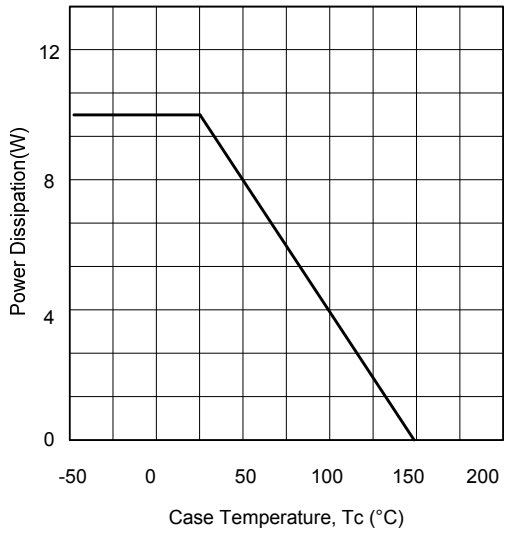
Static Characteristics



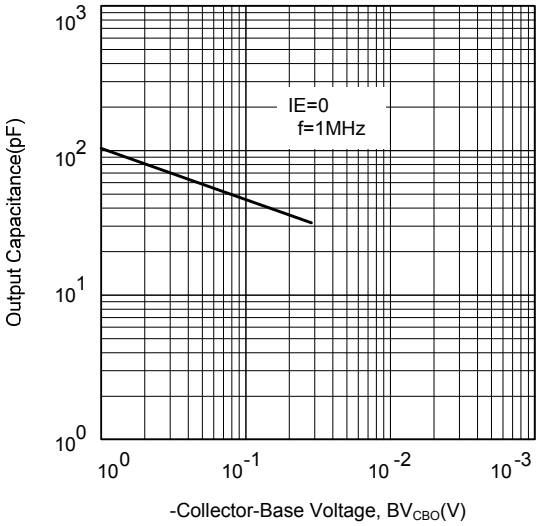
Derating Curve of Safe Operating Areas



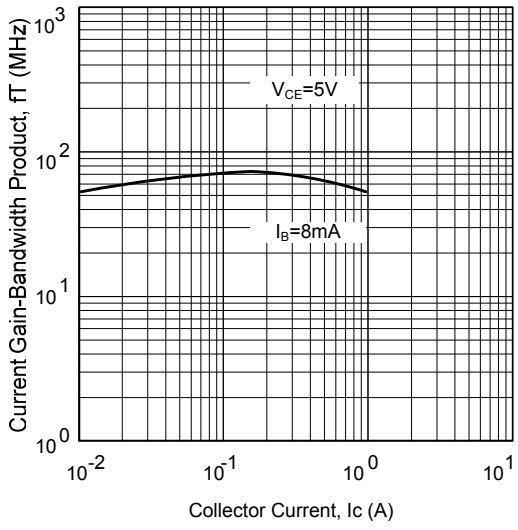
Power Derating



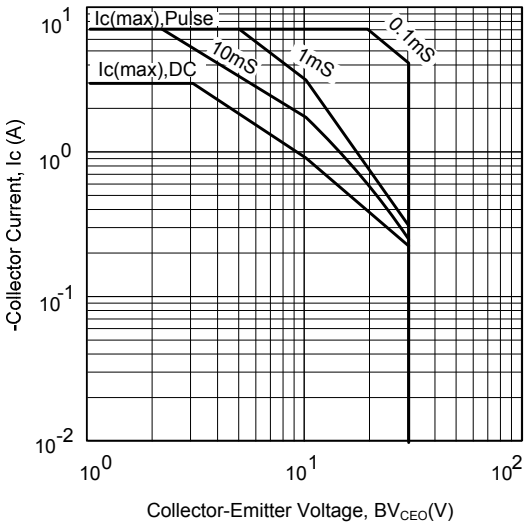
Collector Output Capacitance



Current Gain-Bandwidth Product

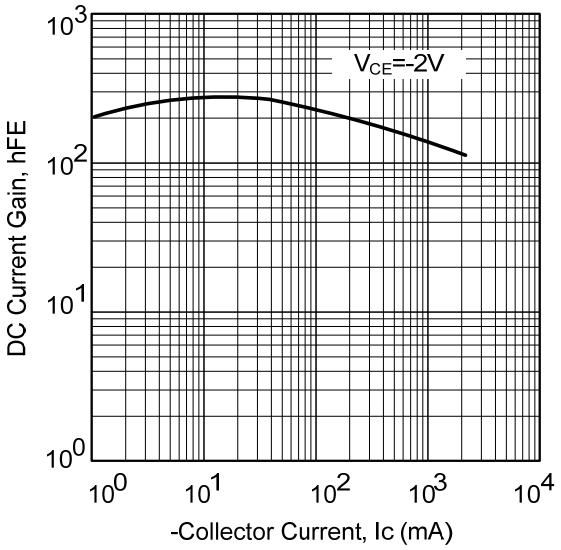


Safe Operating Area



■ TYPICAL CHARACTERICS(Cont.)

DC Current Gain



Saturation Voltage