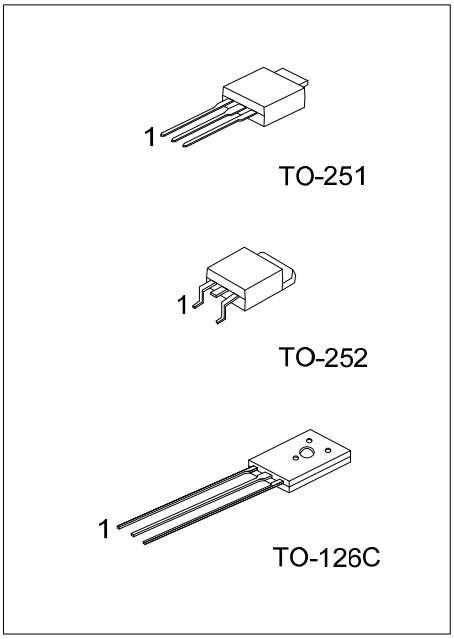
2SB1202

PNP PLANAR TRANSISTOR

HIGH CURRENT SWITCHING APPLICATION



■ DESCRIPTION

The UTC 2SB1202 applies to voltage regulators, relay drivers, lamp drivers, and electrical equipment.

■ FEATURES

* Adoption of FBET, MBIT processes
* Large current capacity and wide ASO
* Low collector-to-emitter saturation voltage
* Fast switching speed

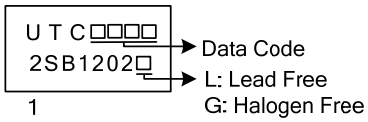
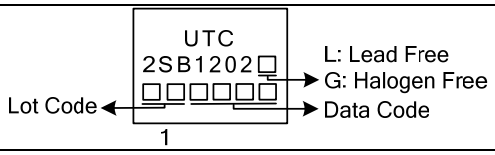
■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SB1202L-x-T6C-K	2SB1202G-x-T6C-K	TO-126C	E	C	B	Bulk
2SB1202L-x-TM3-T	2SB1202G-x-TM3-T	TO-251	B	C	E	Tube
2SB1202L-x-TN3-R	2SB1202G-x-TN3-R	TO-252	B	C	E	Tape Reel

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

2SB1202L-x-T6C-K (1)Packing Type (2)Package Type (3)Rank (4)Green Package	(1) K: Bulk, T: Tube, R: Tape Reel (2) T6C: TO-126C, TM3: TO-251, TN3: TO-252 (3) x: refer to Classification of h_{FE1} (4) L: Lead Free, G: Halogen Free and Lead Free

■ MARKING

TO-126C	TO-251 / TO-252
	

Copyright © 2016 Unisonic Technologies Co., Ltd

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

PARAMETER			SYMBOL	RATINGS	UNIT
Collector-Base Voltage			V_{CBO}	-60	V
Collector-Emitter Voltage			V_{CEO}	-50	V
Emitter-Base Voltage			V_{EBO}	-6	V
Collector Power Dissipation	Tc=25°C	TO-126C	P_D	20	W
		TO-251		28	W
		TO-252		28	W
Collector Current	DC		I_C	-3	A
	PULSE		I_{CP}	-6	A
Junction Temperature			T_J	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 Case	TO-126C	θ_{JC}	6.25	°C/W
	TO-251		4.53	
	TO-252		4.53	

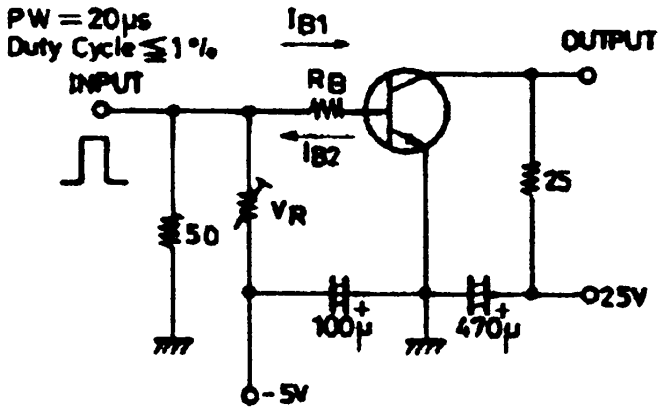
■ ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
C-B Breakdown Voltage	BV_{CBO}	I_C=-10μA, I_E=0	-60			V
C-E Breakdown Voltage	BV_{CEO}	I_C=-1mA, R_{BE}=∞	-50			V
E-B Breakdown Voltage	BV_{EBO}	I_E=-10μA, I_C=0	-6			V
Collector Cutoff Current	I_{CBO}	V_{CB}=-40V,I_E=0			-1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=-4V,I_C=0			-1	μA
C-E Saturation Voltage	$V_{CE(SAT)}$	I_C=-2A, I_B=-100mA		-0.35	-0.7	V
B-E Saturation Voltage	$V_{BE(SAT)}$	I_C=-2A, I_B=-100mA		-0.94	-1.2	V
DC Current Gain	h_{FE1}	V_{CE}=-2V, Ic=-100mA	100		560	
	h_{FE2}	V_{CE}=-2V, Ic=-3A	35			
Gain-Bandwidth Product	f_T	V_{CE}=-10V, I_C=-50mA		150		MHz
Output Capacitance	Cob	V_{CB}=-10V, f=1MHz		39		pF
Turn-on Time	t_{ON}	See test circuit		70		ns
Storage Time	t_{STG}	See test circuit		450		ns
Fall Time	t_F	See test circuit		35		ns

■ CLASSIFICATION OF h_{FE1}

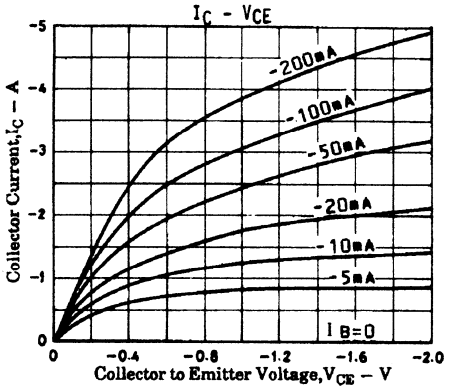
RANK	R	S	T	U
RANGE	100-200	140-280	200-400	280-560

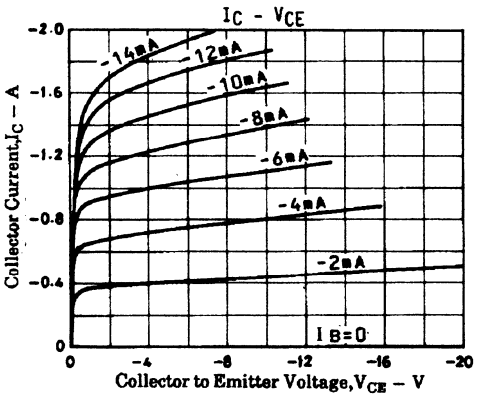
■ TEST CIRCUIT

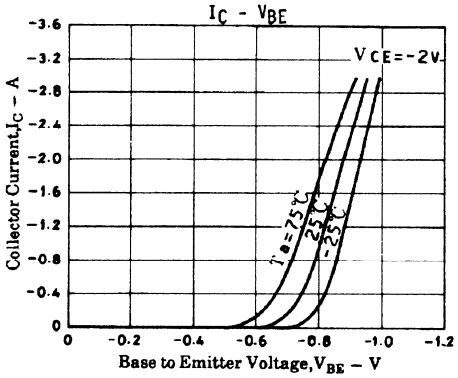


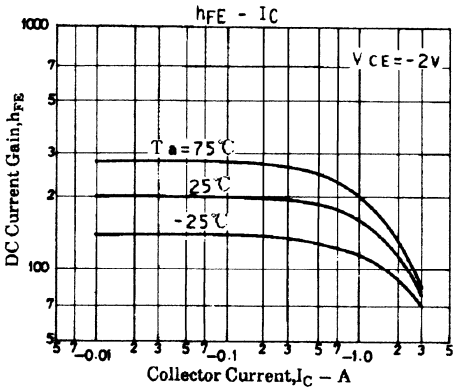
$I_C = 10 I_{B1} = -10 I_{B2} = 1A$

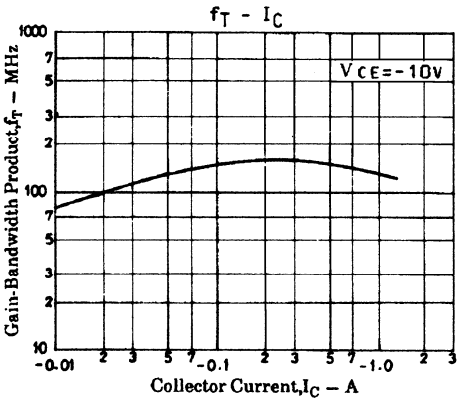
■ TYPICAL CHARACTERISTICS

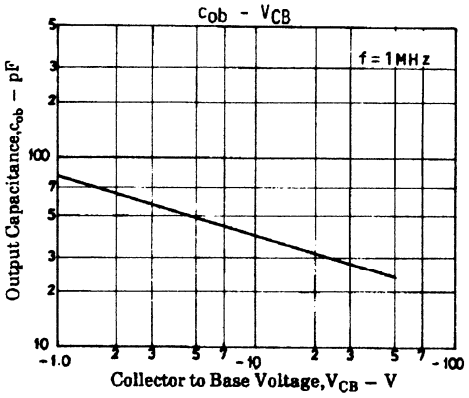




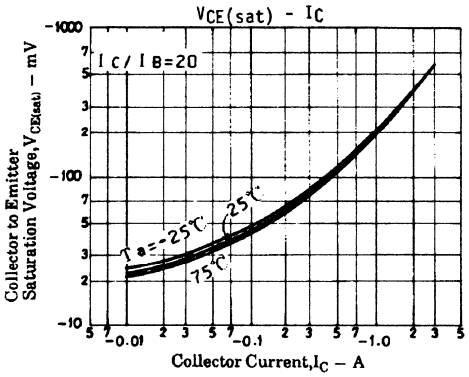


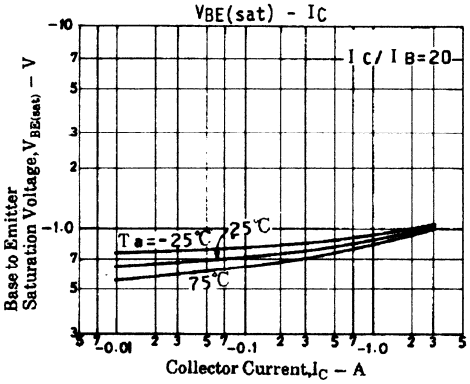


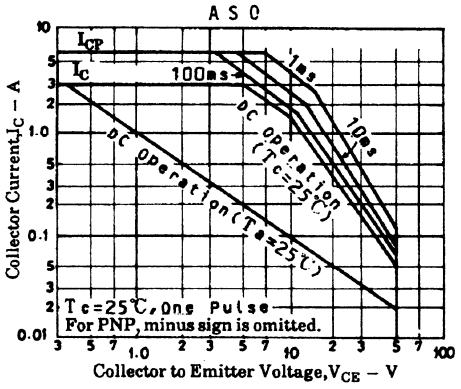


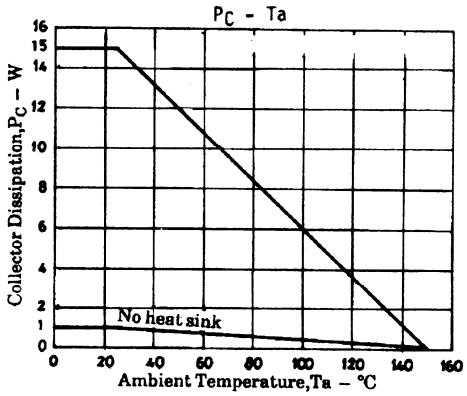


■ TYPICAL CHARACTERISTICS(Cont.)









UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.