

# UTC2SB1202 PNP EPITAXIAL PLANAR SILICON TRANSISTOR

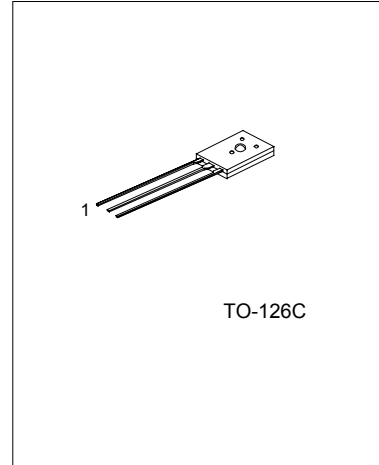
## HIGH CURRENT SWITCHING APPLICATION

### 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



1: EMITTER 2: COLLECTOR 3: BASE

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

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	-60	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-50	V
Emitter-Base Voltage	V <sub>EBO</sub>	-6	V
Collector Power Dissipation T <sub>c</sub> =25°C	P <sub>c</sub>	1 15	W W
Collector Current(DC)	I <sub>c</sub>	-3	A
Collector Current(PULSE)	I <sub>cp</sub>	-6	A
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ +150	°C

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =-40V, I <sub>E</sub> =0			-1	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =-4V, I <sub>C</sub> =0			-1	μA
DC Current Gain (note)	h <sub>FE1</sub> h <sub>FE2</sub>	V <sub>CE</sub> =-2V, I <sub>c</sub> =-100mA V <sub>CE</sub> =-2V, I <sub>c</sub> =-3A	100 35		560	
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-50mA		150		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, f=1MHz		39		pF
C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-2A, I <sub>B</sub> =-100mA		-0.35	-0.7	V
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-2A, I <sub>B</sub> =-100mA		-0.94	-1.2	V
C-B Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-10μA, I <sub>E</sub> =0	-60			V
C-E Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =-1mA, R <sub>BE</sub> =∞	-50			V
E-B Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =-10μA, I <sub>C</sub> =0	-6			V
Turn-on Time	t <sub>on</sub>	See test circuit		70		ns
Storage Time	t <sub>stg</sub>	See test circuit		450		ns
Fall Time	t <sub>f</sub>	See test circuit		35		ns

**UTC** UNISONIC TECHNOLOGIES CO. LTD

1

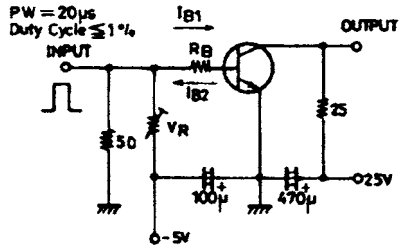
QW-R217-005,A

# UTC2SB1202 PNP EPITAXIAL PLANAR SILICON TRANSISTOR

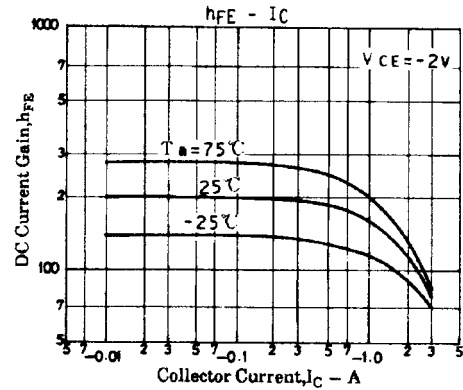
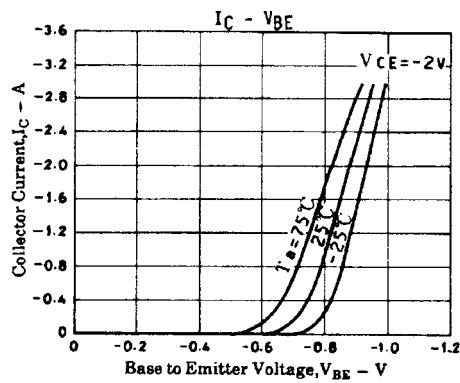
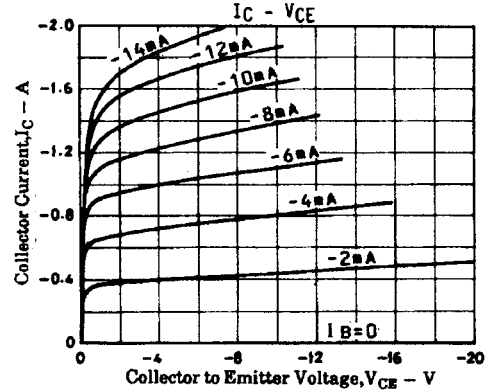
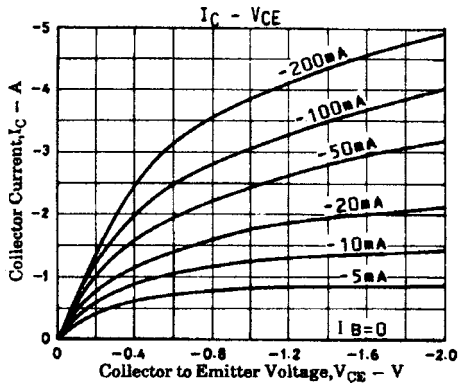
## CLASSIFICATION OF $h_{FE1}$

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

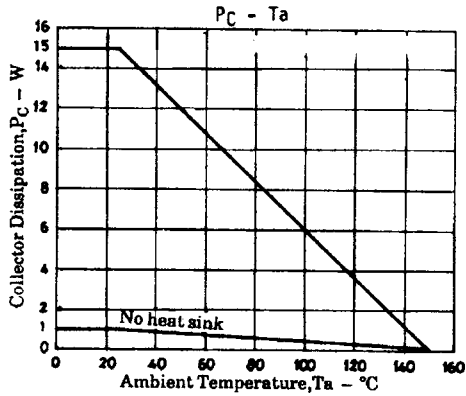
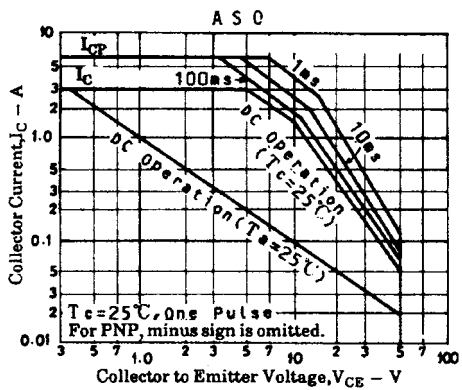
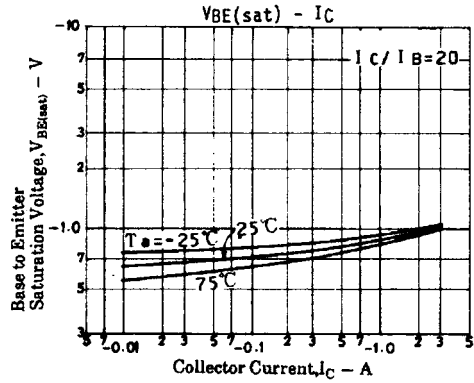
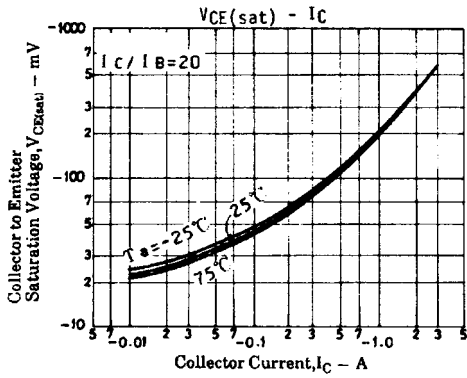
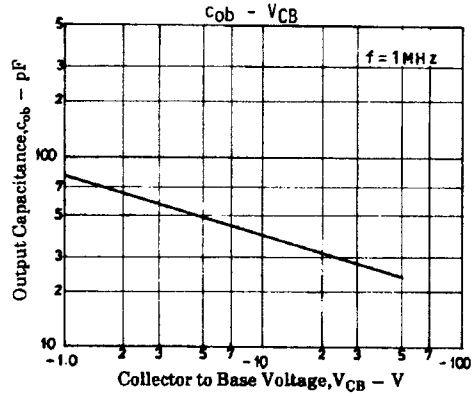
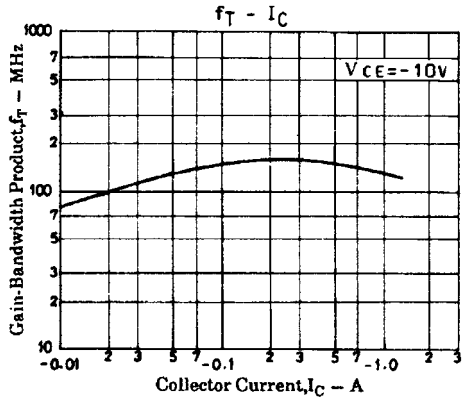
TEST CIRCUIT FOR NPN (PNP: the polarity is reversed; Unit: resistance:  $\Omega$ , capacitance: F)



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



# UTC2SB1202 PNP EPITAXIAL PLANAR SILICON TRANSISTOR



## UTC2SB1202 PNP EPITAXIAL PLANAR SILICON TRANSISTOR

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.