



2SB1202

PNP PLANAR TRANSISTOR

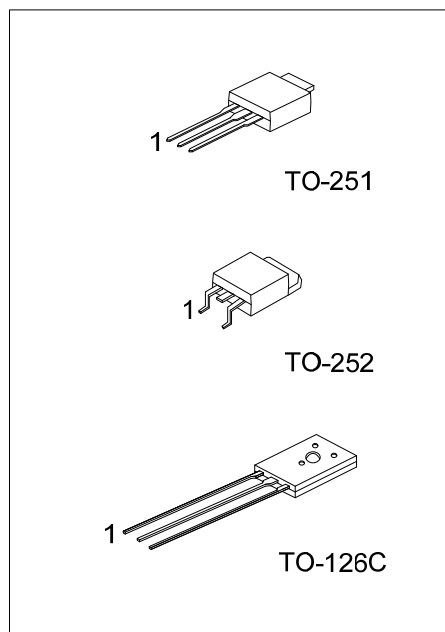
HIGH CURRENT SWITCHING APPLICATION

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
Normal	Lead Free Plating	Halogen Free		1	2	3	
2SB1202-x-T6C-K	2SB1202L-x-T6C-K	2SB1202G-x-T6C-K	TO-126C	E	C	B	Bulk
2SB1202-x-TM3-T	2SB1202L-x-TM3-T	2SB1202G-x-TM3-T	TO-251	B	C	E	Tube
2SB1202-x-TN3-R	2SB1202L-x-TN3-R	2SB1202G-x-TN3-R	TO-252	B	C	E	Tape Reel
2SB1202-x-TN3-T	2SB1202L-x-TN3-T	2SB1202G-x-TN3-T	TO-252	B	C	E	Tube

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

■ **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	

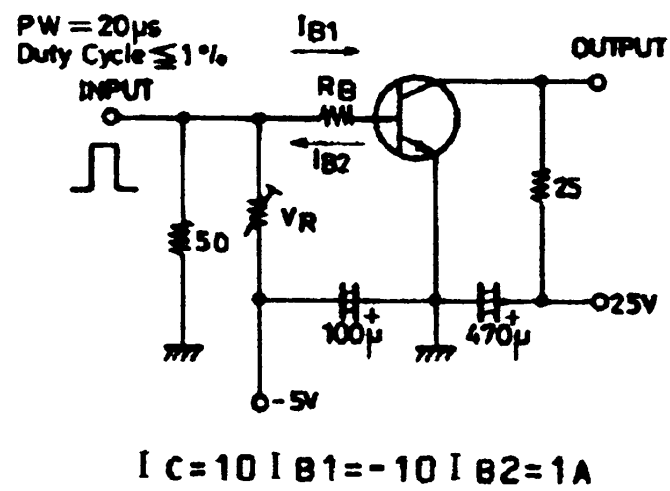
■ **ELECTRICAL CHARACTERISTICS** (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
C-B Breakdown Voltage	BV_{CBO}	$I_C = -10\mu A, I_E = 0$	-60			V
C-E Breakdown Voltage	BV_{CEO}	$I_C = -1mA, R_{BE} = \infty$	-50			V
E-B Breakdown Voltage	BV_{EBO}	$I_E = -10\mu A, I_C = 0$	-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}	$V_{CE} = -2V, I_C = -100mA$	100		560	
	h_{FE2}	$V_{CE} = -2V, I_C = -3A$	35			
Gain-Bandwidth Product	f_T	$V_{CE} = -10V, I_C = -50mA$		150		MHz
Output Capacitance	C_{ob}	$V_{CB} = -10V, f = 1MHz$		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

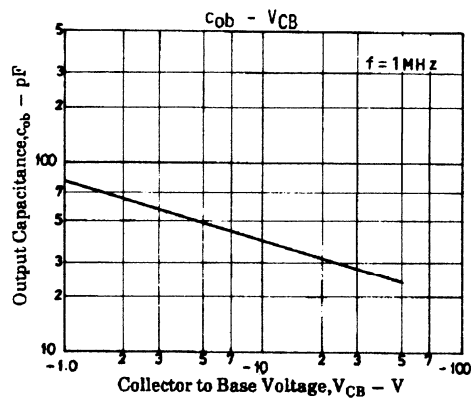
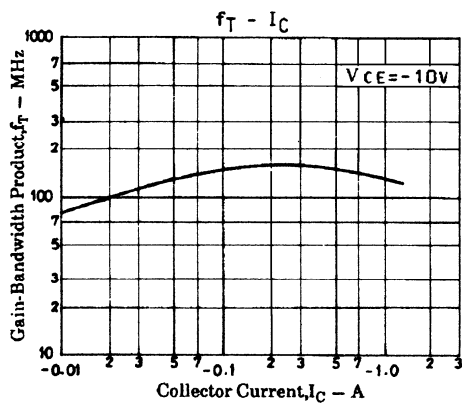
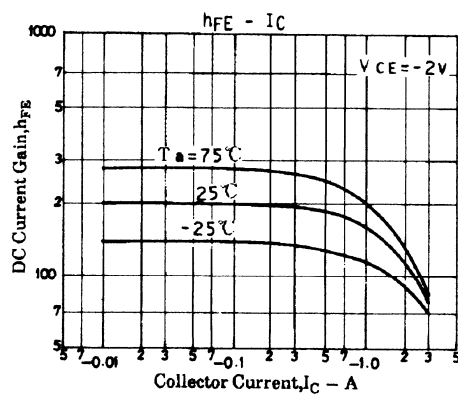
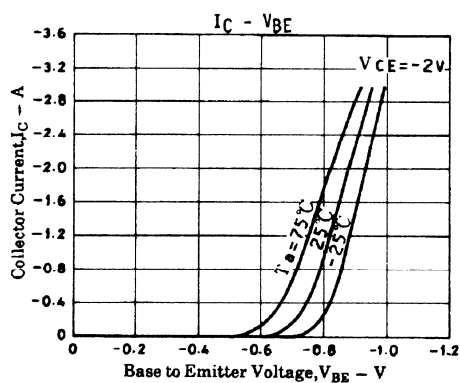
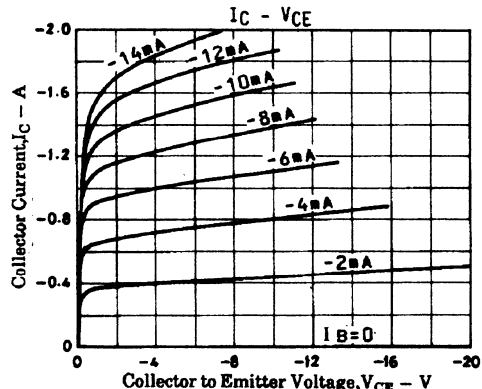
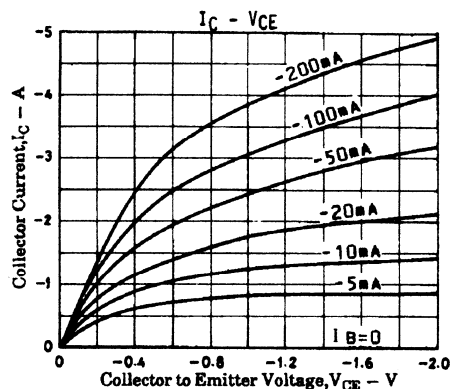
■ **CLASSIFICATION OF h_{FE1}**

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

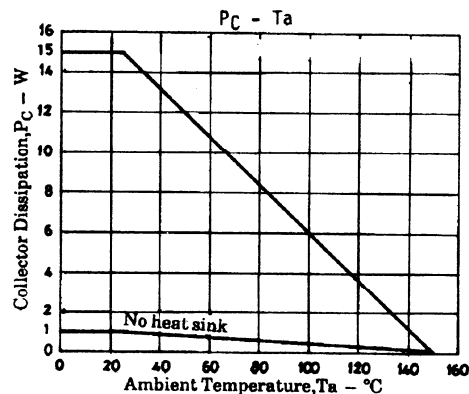
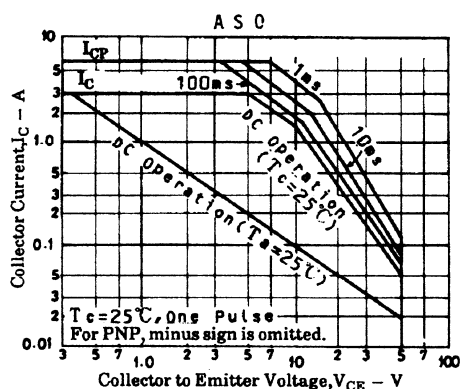
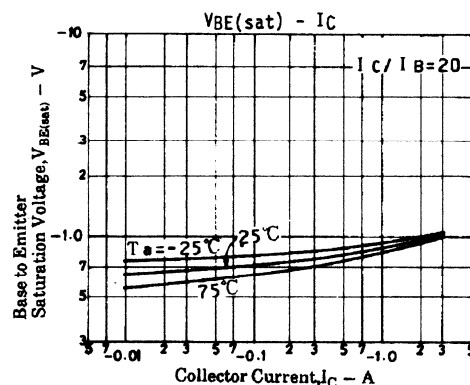
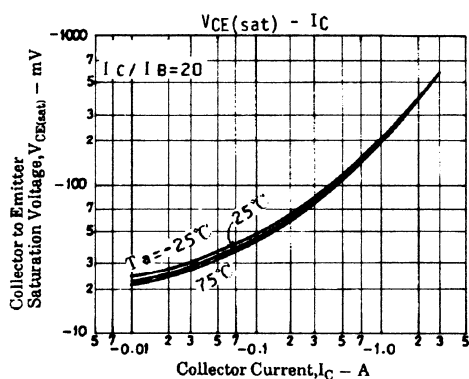
■ TEST CIRCUIT



TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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