



2SB1202

PNP PLANAR TRANSISTOR

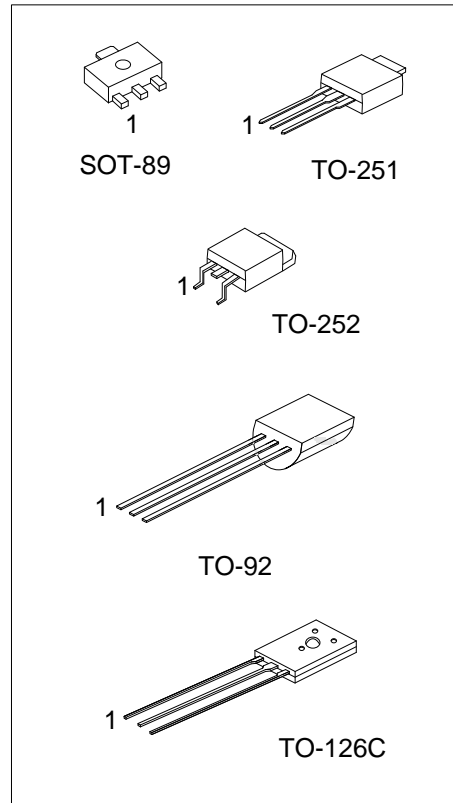
HIGH CURRENT SWITCHING APPLICATION

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-AB3-R	2SB1202G-x-AB3-R	SOT-89	B	C	E	Tape Reel
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
2SB1202L-x-T6C-K	2SB1202G-x-T6C-K	TO-126C	E	C	B	Bulk
2SB1202L-x-T92-B	2SB1202G-x-T92-B	TO-92	E	C	B	Tape Box
2SB1202L-x-T92-K	2SB1202G-x-T92-K	TO-92	E	C	B	Bulk

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

<p>2SB1202G-x-AB3-R</p>	<p>(1) K: Bulk, T: Tube, R: Tape Reel (2) AB3: SOT-89, TM3: TO-251, TN3: TO-252 T6C: TO-126C, T92: TO-92 (3) x: refer to Classification of h_{FE1} (4) G: Halogen Free and Lead Free, L: Lead Free</p>
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■ **ABSOLUTE MAXIMUM RATINGS** ($T_A=25^{\circ}\text{C}$, 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	$T_C=25^{\circ}\text{C}$	SOT-89	3.5	W
		TO-251	28	W
		TO-252	28	W
		TO-126C	20	W
		TO-92	1.5	W
Collector Current	DC	I_C	-3	A
	PULSE	I_{CP}	-6	A
Junction Temperature		T_J	+150	$^{\circ}\text{C}$
Storage Temperature		T_{STG}	-55 ~ +150	$^{\circ}\text{C}$

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	SOT-89	θ_{JC}	35.7	$^{\circ}\text{C/W}$
	TO-251		4.53	$^{\circ}\text{C/W}$
	TO-252		4.53	$^{\circ}\text{C/W}$
	TO-126C		6.25	$^{\circ}\text{C/W}$
	TO-92		83.3	$^{\circ}\text{C/W}$

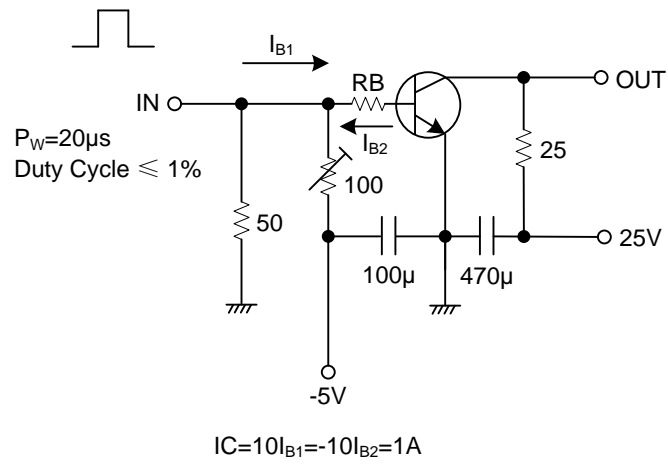
■ **ELECTRICAL CHARACTERISTICS** ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
C-B Breakdown Voltage	BV_{CBO}	$I_C=-10\mu\text{A}, I_E=0$	-60			V
C-E Breakdown Voltage	BV_{CEO}	$I_C=-1\text{mA}, R_{BE}=\infty$	-50			V
E-B Breakdown Voltage	BV_{EBO}	$I_E=-10\mu\text{A}, I_C=0$	-6			V
Collector Cutoff Current	I_{CBO}	$V_{CB}=-40\text{V}, I_E=0$			-1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4\text{V}, I_C=0$			-1	μA
C-E Saturation Voltage	$V_{CE(SAT)}$	$I_C=-2\text{A}, I_B=-100\text{mA}$		-0.35	-0.7	V
B-E Saturation Voltage	$V_{BE(SAT)}$	$I_C=-2\text{A}, I_B=-100\text{mA}$		-0.94	-1.2	V
DC Current Gain	h_{FE1}	$V_{CE}=-2\text{V}, I_C=-100\text{mA}$	100		560	
	h_{FE2}	$V_{CE}=-2\text{V}, I_C=-3\text{A}$	35			
Gain-Bandwidth Product	f_T	$V_{CE}=-10\text{V}, I_C=-50\text{mA}$		150		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10\text{V}, f=1\text{MHz}$		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

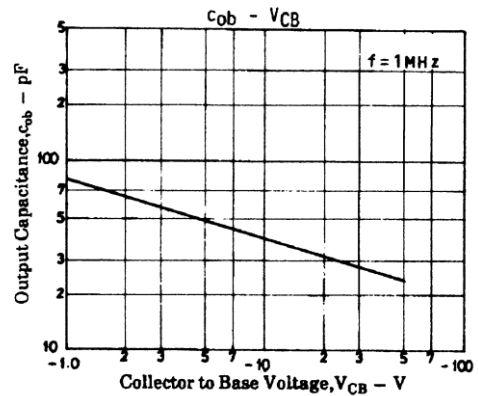
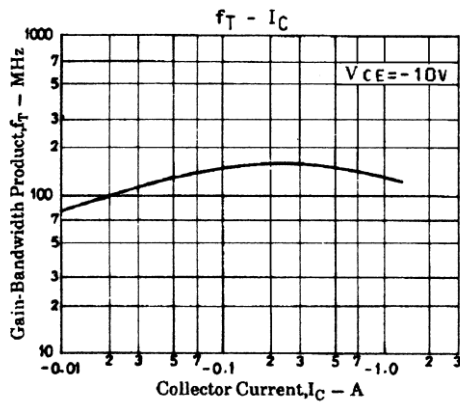
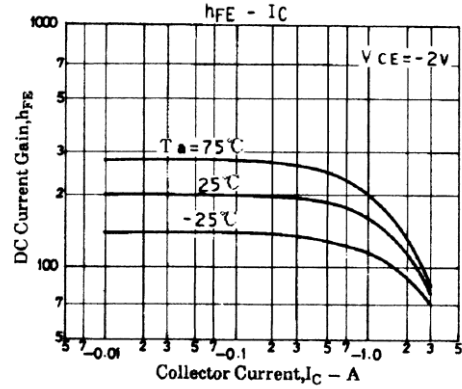
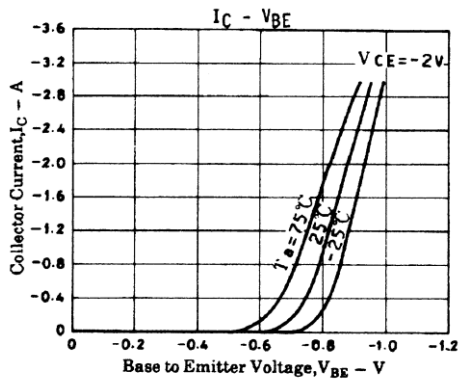
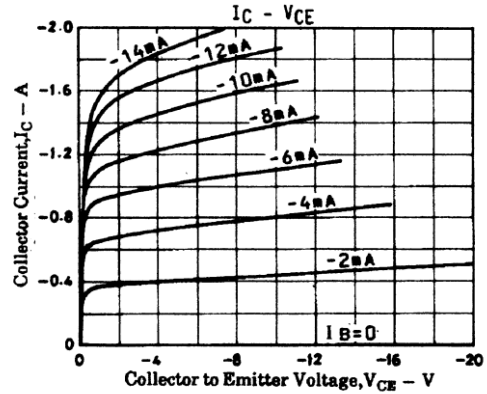
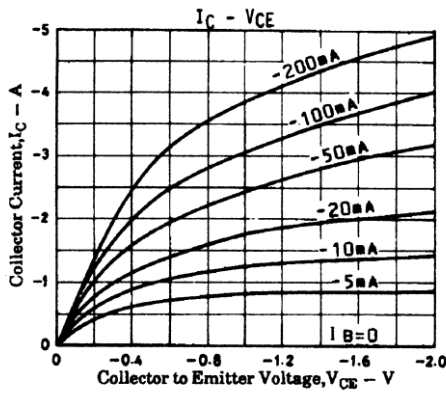
■ **CLASSIFICATION OF h_{FE1}**

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

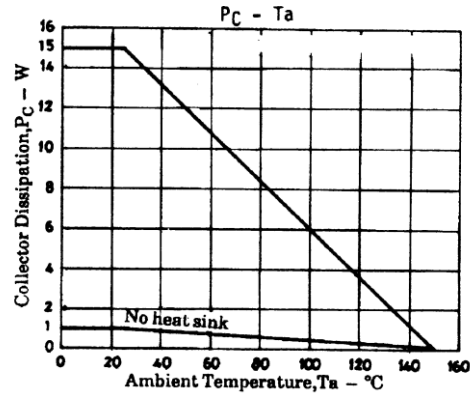
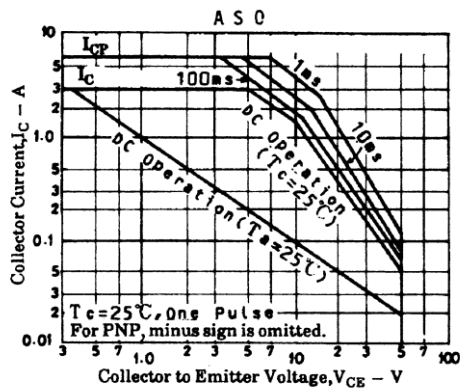
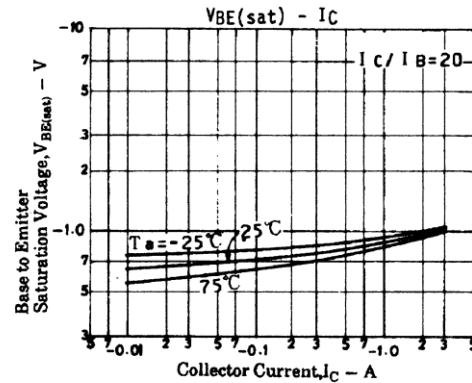
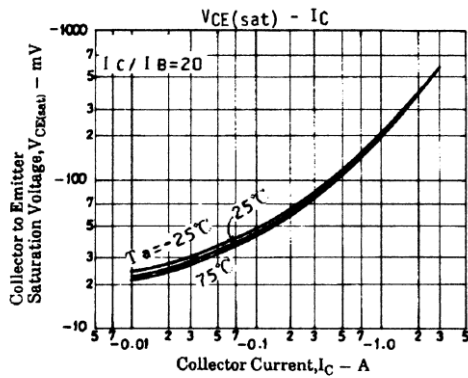
■ TEST CIRCUIT



TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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