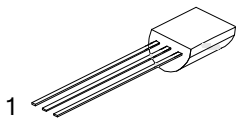
9013

NPN EPITAXIAL SILICON TRANSISTOR

1W OUTPUT AMPLIFIER OF POTABLE RADIOS IN CLASS B PUSH-PULL OPERATION



TO-92

■ FEATURES

* High total power dissipation. (625mW)
* High collector current. (500mA)
* Excellent h_{FE} linearity.
* Complementary to UTC **9012**

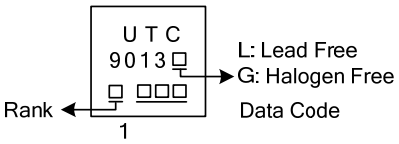
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
9013L-x-T92-B	9013G-x-T92-B	TO-92	E	B	C	Tape Box
9013L-x-T92-K	9013G-x-T92-K	TO-92	E	B	C	Bulk

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

9013L- x -T92- B (1)Packing Type (2)Package Type (3)Rank (4)Lead Free	(1) B: Tape Box, K: Bulk (2) T92: TO-92 (3) x: refer to Classification of h_{FE} (4) L: Lead Free, G: Halogen Free

■ MARKING



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

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-base voltage	V_{CBO}	40	V
Collector-emitter voltage	V_{CEO}	20	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	500	mA
Collector dissipation	P_C	625	mW
Junction Temperature	T_J	125	°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.

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

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	20			V
Emitter-base breakdown voltage	BV_{EBO}	I_E=100μA, I_C=0	5			V
Collector cutoff current	I_{CBO}	V_{CB}=25V, I_E=0			100	nA
Emitter cutoff current	I_{EBO}	V_{EB}=3V, I_C=0			100	nA
DC current gain	h_{FE1} h_{FE2}	V_{CE}=1V, I_C=50mA V_{CE}=1V, I_C=500mA	64 40	120 120	300	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-500mA, I_B=-50mA		0.16	0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=-500mA, I_B=-50mA		0.91	1.2	V
Base-emitter on voltage	$V_{BE(on)}$	V_{CE}=1V, I_C=10mA	0.6	0.67	0.7	V

■ CLASSIFICATION OF hFE1

RANK	D	E	F	G	H	I
RANGE	64-91	78-112	96-135	112-166	144-202	190-300

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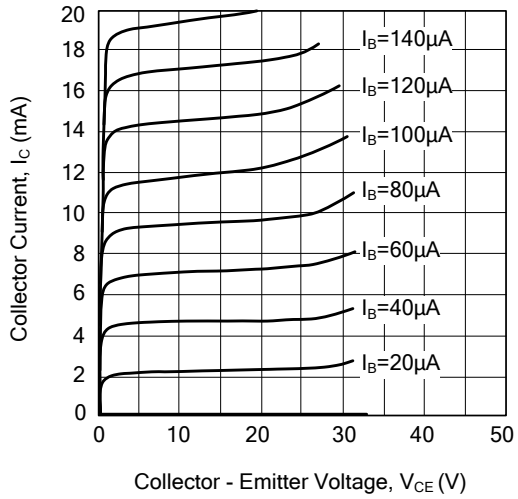
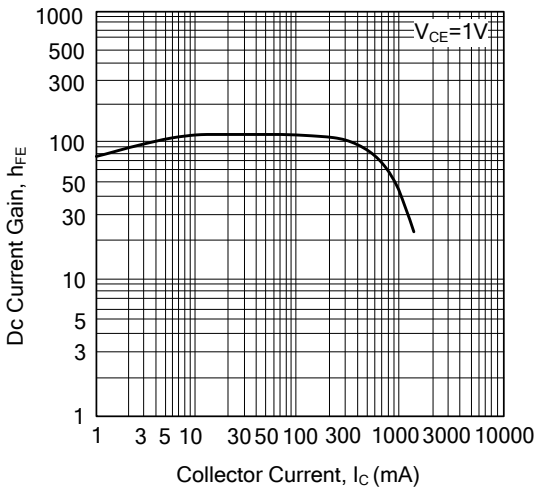
■ TYPICAL CHARACTERICS

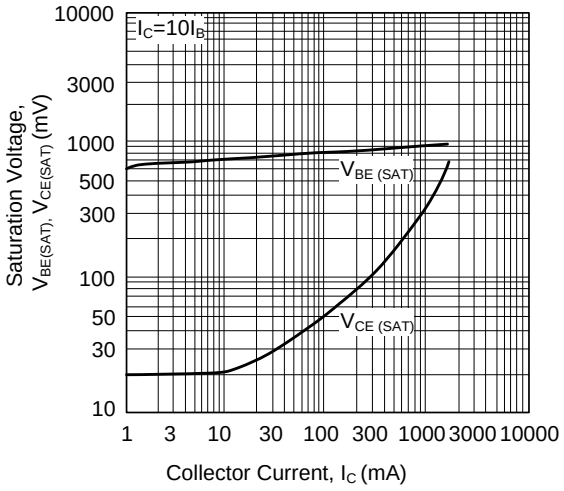
Static Characteristic



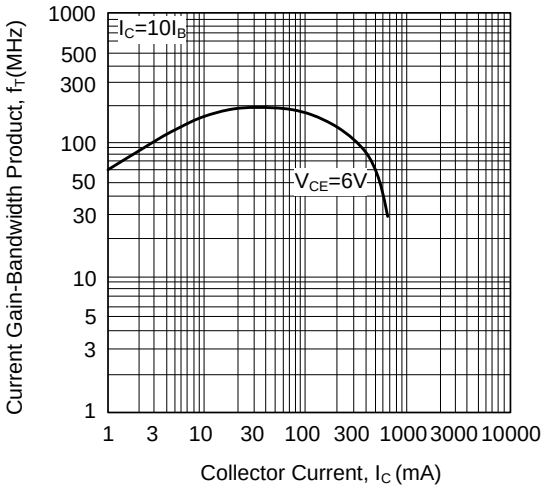
Dc Current Gain



Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage



Current Gain-Bandwidth Product



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