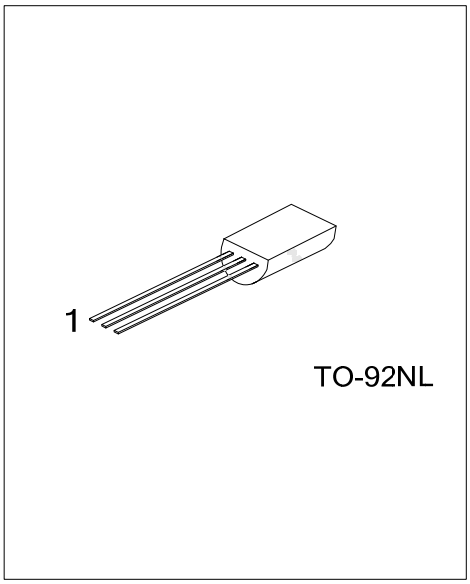
2SB647

PNP EPITAXIAL SILICON TRANSISTOR

SILICON PNP EPITAXIAL



■ DESCRIPTION

The UTC **2SB647** is a PNP epitaxial silicon transistor, which can be used as a low frequency power amplifier.

■ APPLICATION

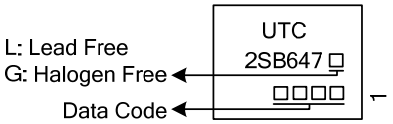
* Low frequency power amplifier

■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SB647L-x-T9N-B	2SB647G-x-T9N-B	TO-92NL	E	C	B	Tape Box
2SB647L-x-T9N-K	2SB647G-x-T9N-K	TO-92NL	E	C	B	Bulk

2SB647G-x-T9N-B (1)Packing Type (2)Package Type (3)Rank (4)Green Package	(1) B: Tape Box, K: Bulk (2) T9N: TO-92NL (3) refer to CLASSIFICATION OF h_{FE1} (4) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



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

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	-120	V
Collector-Emitter Voltage	V_{CEO}	-80	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current	I_C	-1	A
Collector Peak Current	I_{CP}	-2	A
Collector Power Dissipation	P_C	0.9	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

Notes: 1.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.
2. PW≤10ms, Duty cycle≤20%

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

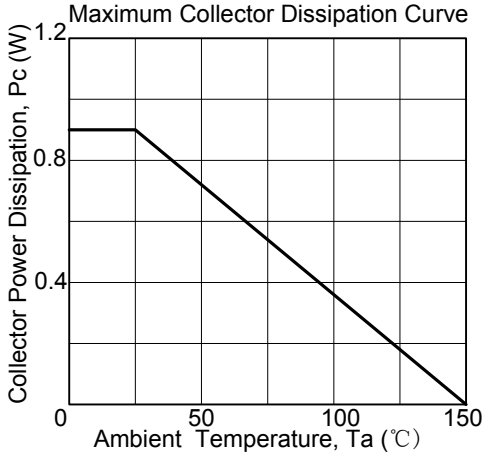
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C= -10μA, I_E =0	-120			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C= -1mA,R_{BE} =∞	-80			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E= -10μA, I_C=0	-6			V
Collector Cut-Off Current	I_{CBO}	V_{CB}= -120V, I_E=0			-500	nA
Emitter Cutoff Current	I_{EBO}	V_{EB}=-6V, I_C=0			-500	nA
DC Current Transfer Ratio	h_{FE1}	V_{CE}= -5V, I_C= -150mA (note)	60		320	
	h_{FE2}	V_{CE}= -5V, I_C= -500mA (note)	40			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C= -500mA, I_B= -50mA (note)			-0.5	V
Base to Emitter Saturation Voltage	$V_{BE(SAT)}$	I_C=-500mA, I_B=-50mA			-1.1	V
Gain Bandwidth Product	f_T	V_{CE}= -5V, I_C= -150mA		140		MHz
Collector Output Capacitance	C_{ob}	V_{CB}= -10V, I_E=0, f=1MHz		20		pF

■ CLASSIFICATION OF h_{FE1}

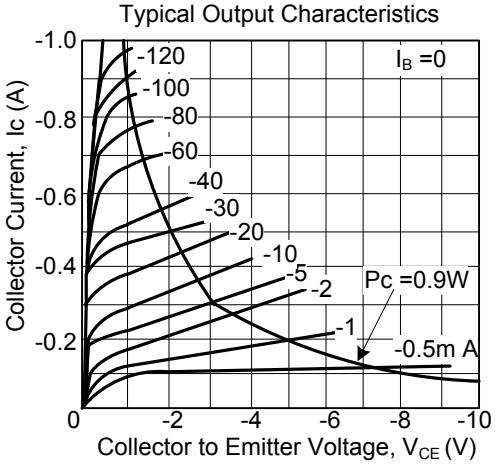
RANK	B	C	D
RANGE	60-120	100-200	160-320

■ TYPICAL CHARACTERISTICS

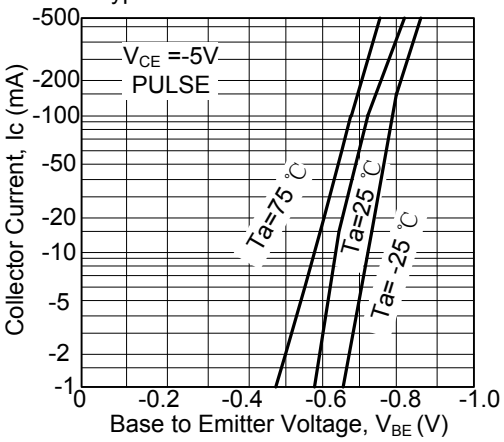
Maximum Collector Dissipation Curve



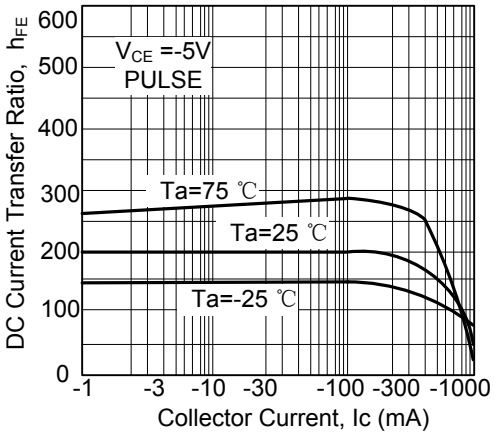
Typical Output Characteristics



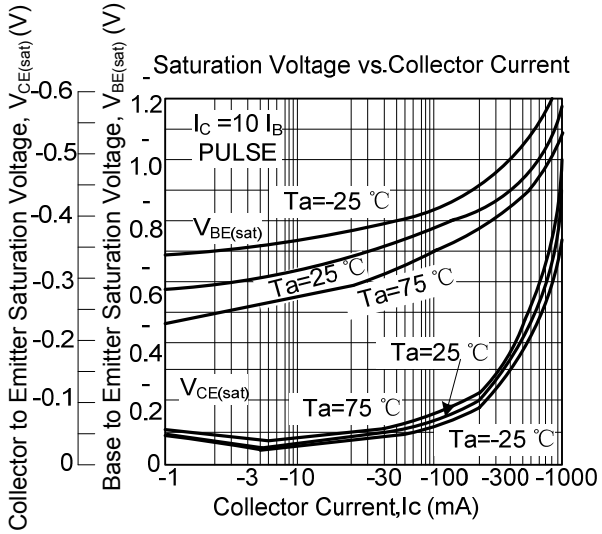
Typical Transfer Characteristics



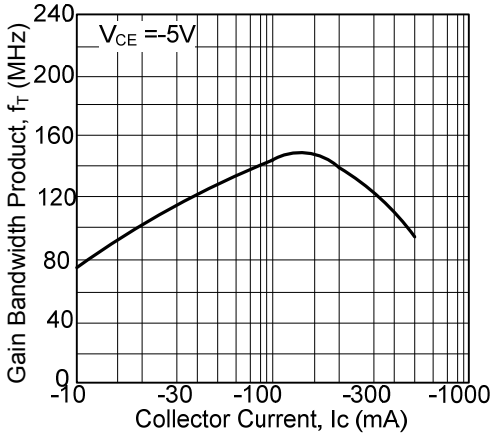
DC Current Transfer Ratio vs.Collector Current



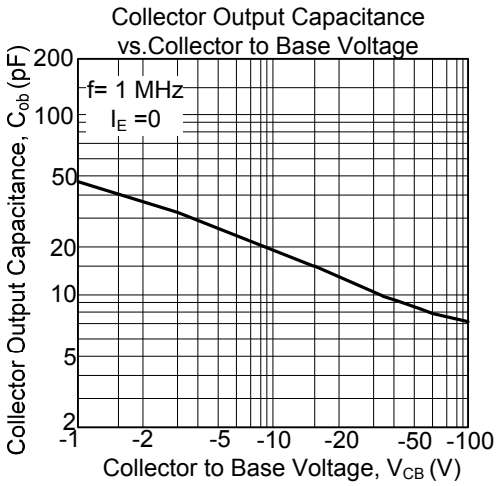
Saturation Voltage vs.Collector Current



Gain Bandwidth Product vs.Colllector Current



■ TYPICAL CHARACTERISTICS (Cont.)



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