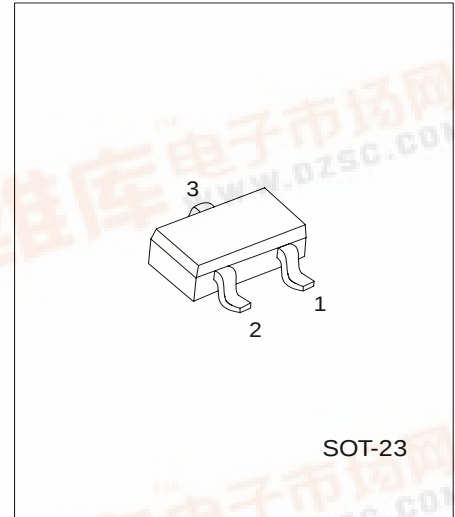




UNISONIC TECHNOLOGIES CO., LTD

BC817**NPN EPITAXIAL SILICON TRANSISTOR****NPN GENERAL PURPOSE
AMPLIFIER**■ **Description**

The UTC **BC817** is designed for general purpose medium power amplifiers and switches requiring collector currents to 1.2A.



SOT-23

*Pb-free plating product number:BC817L

■ **PIN CONFIGURATION**

PIN NO.	PIN NAME
1	EMITTER
2	BASE
3	COLLECTOR

■ **ORDERING INFORMATION**

Order Number		Package	Packing
Normal	Lead Free Plating		
BC817-16-AE3-R	BC817L-16-AE3-R	SOT-23	Tape & Reel
BC817-25-AE3-R	BC817L-25-AE3-R	SOT-23	Tape & Reel
BC817-40-AE3-R	BC817L-40-AE3-R	SOT-23	Tape & Reel

■ **MARKING**

BC817-16	BC817-25	BC817-40

BC817

NPN EPITAXIAL SILICON TRANSISTOR

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

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Emitter Voltage	V _{CEO}	45	V
Collector-Base Voltage	V _{CES}	50	V
Emitter-Base Voltage	V _{EBO}	5.0	V
Collector Current -Continuous	I _C	1.5	A
Power Dissipation Derate above 25°C	P _D	350 2.8	mW mW/°C
Junction Temperature	T _J	150	
Storage Temperature	T _{STG}	-40 ~ +150	

Note 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. The device is guaranteed to meet performance specification within 0 ~+70 operating temperature range and assured by design from -20 ~+85 .

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

CHARACTERISTIC	SYMBOL	RATING (Note)	UNIT
Thermal Resistance, Junction to Ambient	θ_{JA}	350	°C/W

Note: Device mounted on FR-4 PCB 40mm×40mm×1.5mm.

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

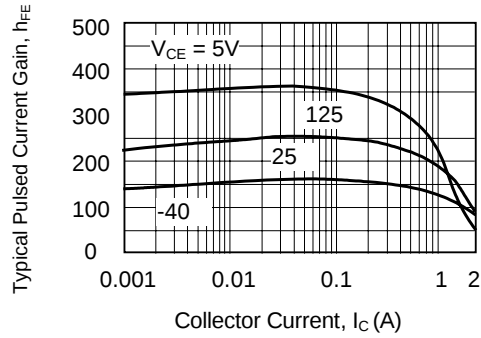
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C =10mA, I _B =0	45			V
Collector-Base Breakdown Voltage	V _{(BR)CES}	I _C =100μA, I _E =0	50			V
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	I _E =10μA, I _C =0	5			V
Collector-Cutoff Current	I _{CBO}	V _{CB} =20V V _{CB} =20V, T _a =150°C			100 5	nA μA
ON CHARACTERISTICS						
DC Current Gain	h _{FE1} *	I _C =100mA, V _{CE} =1.0V	See Classification			
	h _{FE2}	I _C =500mA, V _{CE} =1.0V	40			
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C =500mA, I _B =50Ma			0.7	V
Base-Emitter On Voltage	V _{BE(ON)}	I _C =500mA, V _{CE} =1.0V			1.2	V

■ CLASSIFICATION OF h_{FE1}*

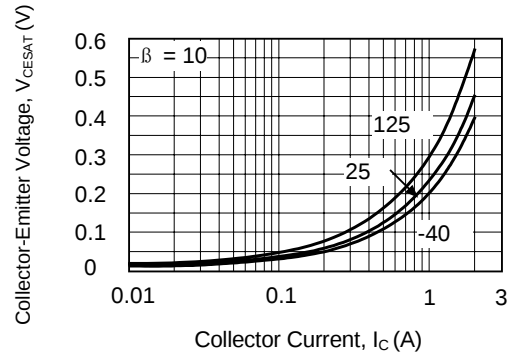
RANK	BC817-16	BC817-25	BC817-40
RANGE	100-250	160-400	250-600

TYPICAL CHARACTERISTICS

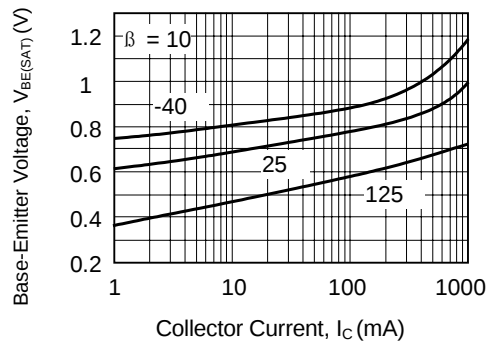
Typical Pulsed Current Gain vs Collector Current



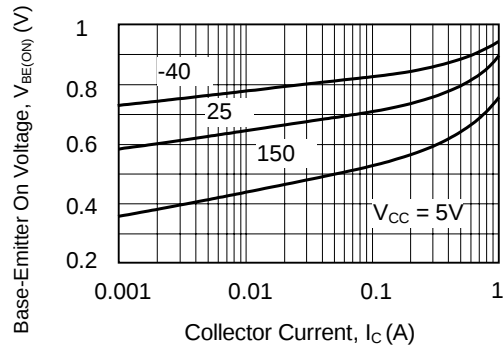
Collector-Emitter Saturation Voltage vs Collector Current



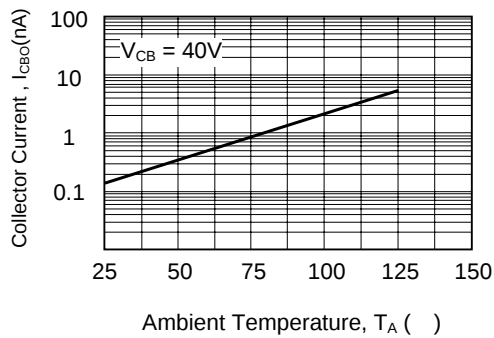
Base-Emitter Saturation Voltage vs Collector Current



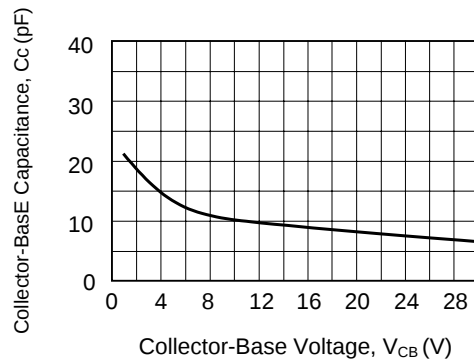
Base-Emitter On Voltage vs Collector Current



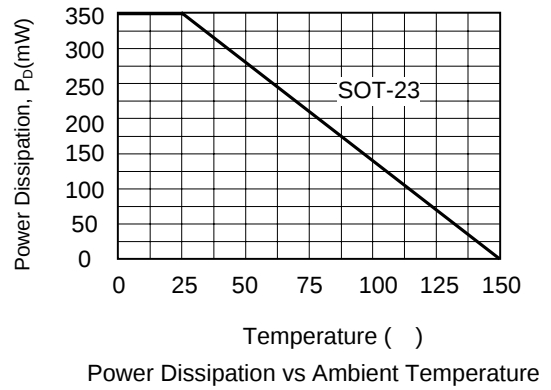
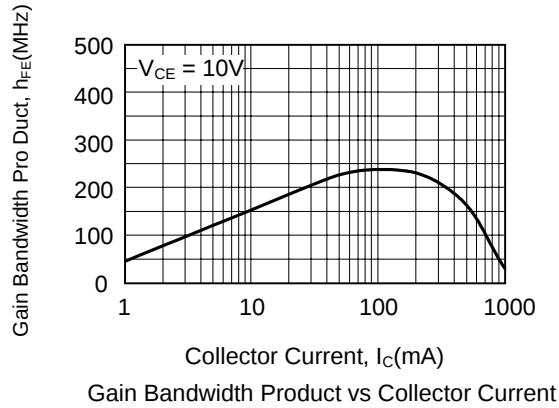
Collector-Cutoff Current vs Ambient Temperature



Collector-Base Capacitance vs Collector-Base Voltage



■ TYPICAL CHARACTERISTICS(cont.)



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