



UNISONIC TECHNOLOGIES CO., LTD

MMBT1015

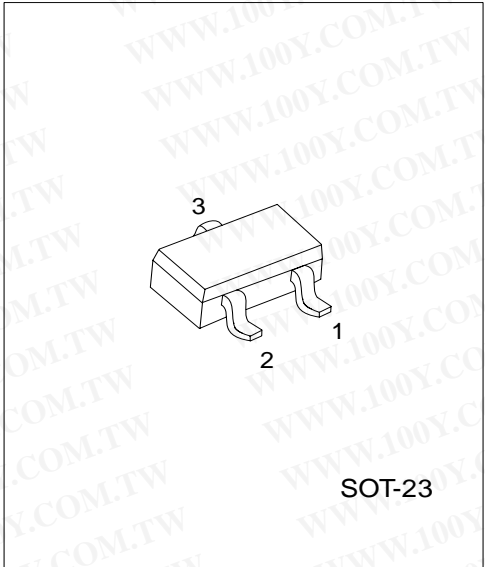
PNP EPITAXIAL SILICON TRANSISTOR

LOW FREQUENCY PNP AMPLIFIER TRANSISTOR

FEATURES

- *Collector-Emitter Voltage:
BV_{CEO}=-50V
- *Collector current up to 150mA
- *High Hfe linearity
- *Complement to MMBT1815

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)



*Pb-free plating product number: MMBT1015L

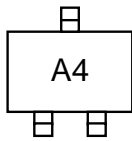
PIN CONFIGURATION

PIN NO.	PIN NAME
1	EMITTER
2	BASE
3	COLLECTOR

ORDERING INFORMATION

Order Number		Package	Packing
Normal	Lead Free Plating		
MMBT1015-AE3-R	MMBT1015L-AE3-R	SOT-23	Tape & Reel

MARKING



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PNP EPITAXIAL SILICON TRANSISTOR

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

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-base voltage	V _{CBO}	-50	V
Collector-emitter voltage	V _{CEO}	-50	V
Emitter-base voltage	V _{EBO}	-5	V
Collector dissipation	P _C	250	mW
Collector current	I _C	-150	mA
Base current	I _B	-50	mA
Junction Temperature	T _J	150	
Operating Temperature	T _{OPR}	0 ~ +70	
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.

■ ELECTRICAL CHARACTERISTICS (Ta=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	-50			V
Collector-emitter breakdown voltage	BV _{CEO}	I _C = -10mA, I _B = 0	-50			V
Emitter-base breakdown voltage	BV _{EBO}	I _E = -10μA, I _C = 0	-5			V
Collector cut-off current	I _{CBO}	V _{CB} = -50V, I _E = 0			-100	nA
Emitter cut-off current	I _{EBO}	V _{EB} = -5V, I _C = 0			-100	nA
DC current gain	h _{FE1} h _{FE2}	V _{CE} = -6V, I _C = -2mA V _{CE} = -6V, I _C = -150mA	120 25		700	
Collector-emitter saturation voltage	V _{CE(SAT)}	I _C = -100mA, I _B = -10mA		-0.1	-0.3	V
Base-emitter saturation voltage	V _{BE(SAT)}	I _C = -100mA, I _B = -10mA			-1.1	V
Current gain bandwidth product	f _T	V _{CE} = -10V, I _C = -1mA	80			MHz
Output capacitance	C _{OB}	V _{CB} = -10V, I _E = 0, f = 1MHz		4.0	7.0	pF
Noise Figure	NF	I _C = -0.1mA, V _{CE} = -6V R _G = 1kΩ, f = 100Hz		0.5	6	dB

■ CLASSIFICATION OF h_{FE1}

RANK	Y	GR	BL
RANGE	120-240	200-400	350-700

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PN EPITAXIAL SILICON TRANSISTOR

TYPICAL CHARACTERISTICS

Fig.1 Static Characteristics

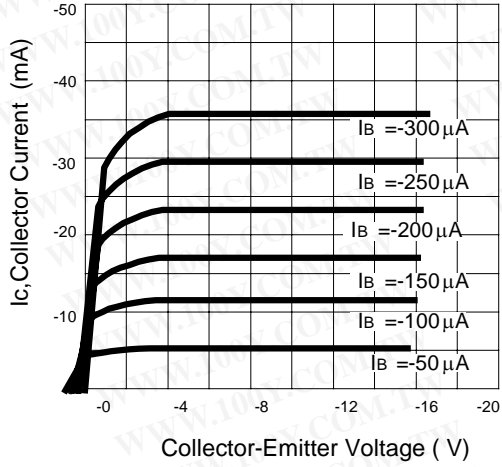


Fig.2 DC Current Gain

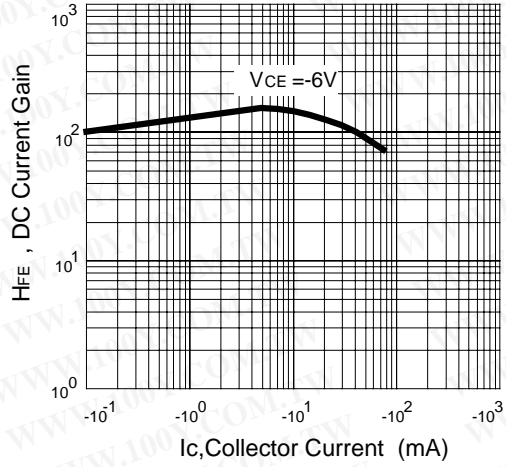


Fig.3 Base-Emitter On Voltage

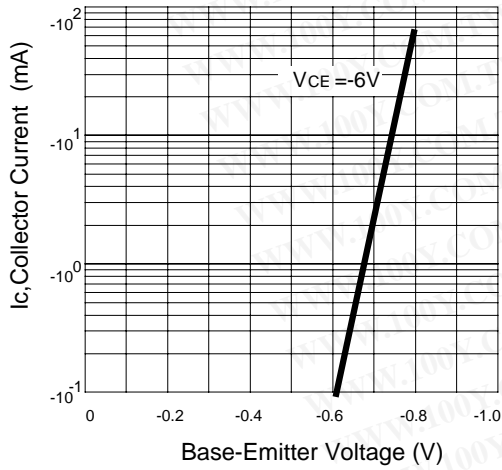


Fig.4 Saturation Voltage

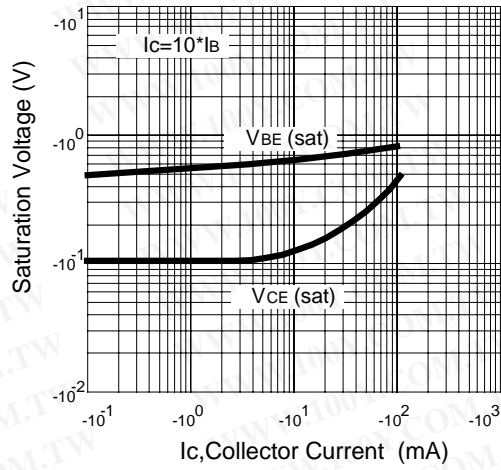


Fig.5 Current Gain-Bandwidth Product

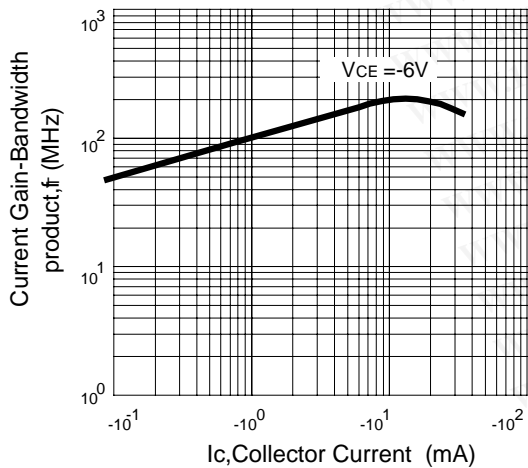
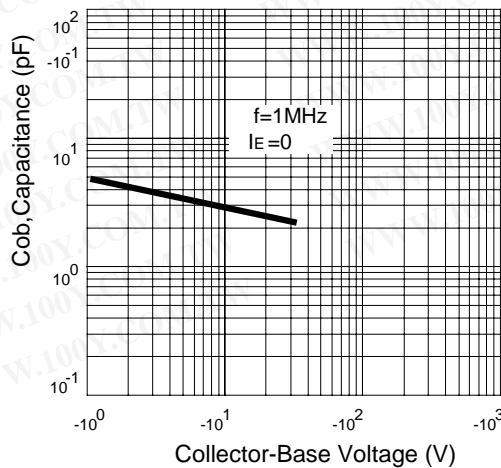


Fig.6 Collector Output Capacitance



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