



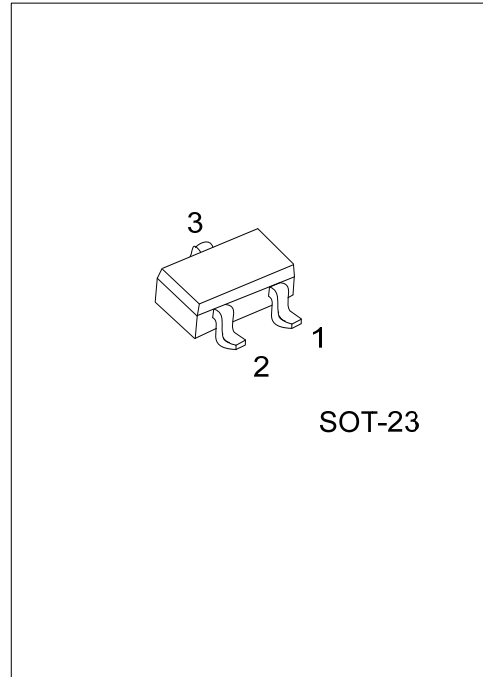
MMBT5401

PNP SILICON TRANSISTOR

HIGH VOLTAGE SWITCHING TRANSISTOR

■ FEATURES

- *Collector-Emitter Voltage: $V_{CE0} = -150V$
- *High Current Gain



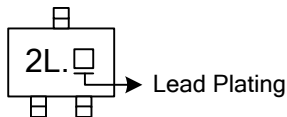
Lead-free: MMBT5401L
 Halogen-free: MMBT5401G

■ ORDERING INFORMATION

Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free Plating	Halogen-Free		1	2	3	
MMBT5401-x-AE3-R	MMBT5401L-x-AE3-R	MMBT5401G-x-AE3-R	SOT-23	E	B	C	Tape Reel

<p>MMBT5401L-x-AE3-R</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Rank (4) Lead Plating 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) AE3: SOT-23 (3) x: refer to Classification of h_{FE} (4) G: Halogen Free, L: Lead Free Plating, Blank: Pb/Sn
---	---

■ MARKING



MMBT5401

PNP SILICON TRANSISTOR

■ ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector -Base Voltage	V _{CB0}	-160	V
Collector -Emitter Voltage	V _{CE0}	-150	V
Emitter -Base Voltage	V _{EBO}	-5	V
DC Collector Current	I _C	-600	mA
Power Dissipation	P _D	350	mW
Junction Temperature	T _J	+150	°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 (Ta= 25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV _{CB0}	I _C =-100μA, I _E =0	-160			V
Collector-Emitter Breakdown Voltage	BV _{CE0}	I _C =-1mA, I _B =0	-150			V
Emitter-Base Breakdown Voltage	BV _{EBO}	I _E =-10μA, I _C =0	-6			V
Collector Cut-off Current	I _{CB0}	V _{CB} =-120V, I _E =0			-50	nA
Emitter Cut-off Current	I _{EBO}	V _{BE} =-3V, I _C =0			-50	nA
DC Current Gain(Note)	h _{FE}	V _{CE} =-5V, I _C =-1mA V _{CE} =-5V, I _C =-10mA V _{CE} =-5V, I _C =-50mA	80	160	400	
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C =-10mA, I _B =-1mA I _C =-50mA, I _B =-5mA			-0.2 -0.5	V
Base-Emitter Saturation Voltage	V _{BE(SAT)}	I _C =-10mA, I _B =-1mA I _C =-50mA, I _B =-5mA			-1 -1	V
Current Gain Bandwidth Product	f _T	V _{CE} =-10V, I _C =-10mA, f=100MHz	100		300	MHz
Output Capacitance	C _{ob}	V _{CB} =-10V, I _E =0, f=1MHz			6.0	pF
Noise Figure	NF	I _C =-0.25mA, V _{CE} =-5V R _S =1kΩ, f=10Hz ~ 15.7kHz			8	dB

Note: Pulse test: PW<300μs, Duty Cycle<2%

■ CLASSIFICATION OF h_{FE}

RANK	A	B	C
RANGE	80-170	150-240	200-400

■ TYPICAL CHARACTERISTICS

Fig.1 Collector Output Capacitance

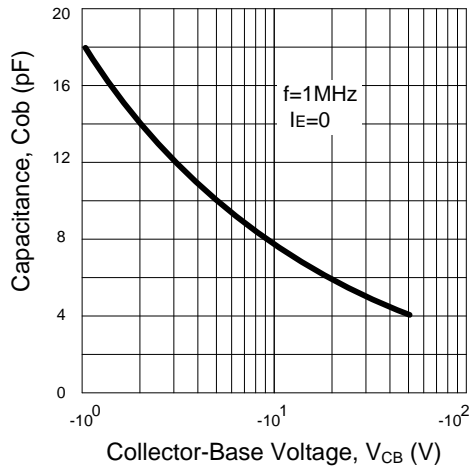


Fig.2 DC Current Gain

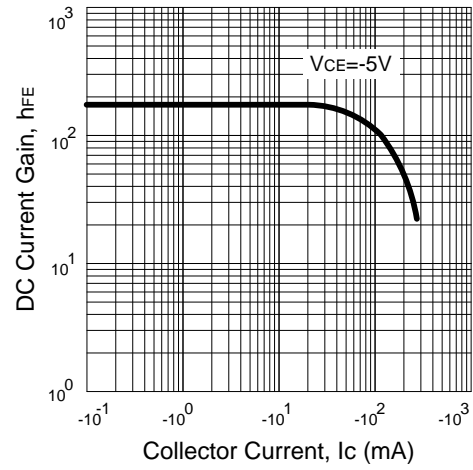


Fig.3 Base-Emitter on Voltage

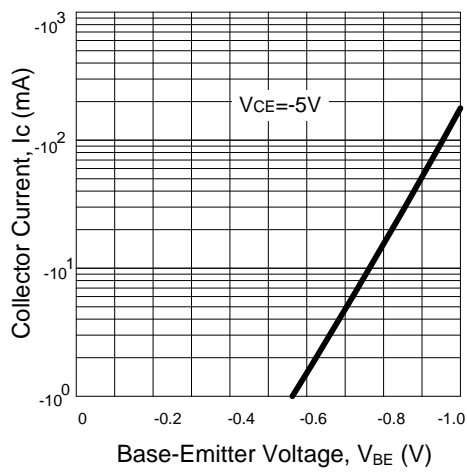


Fig.4 Saturation Voltage

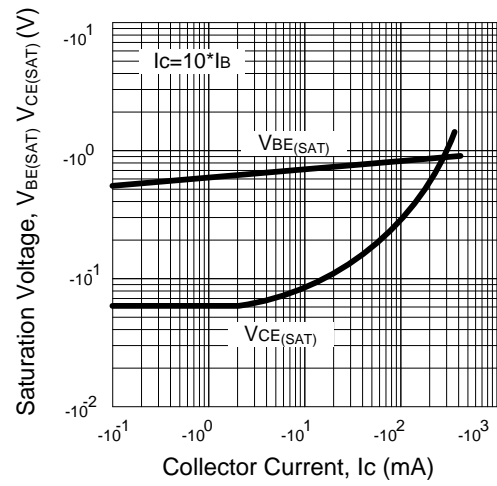
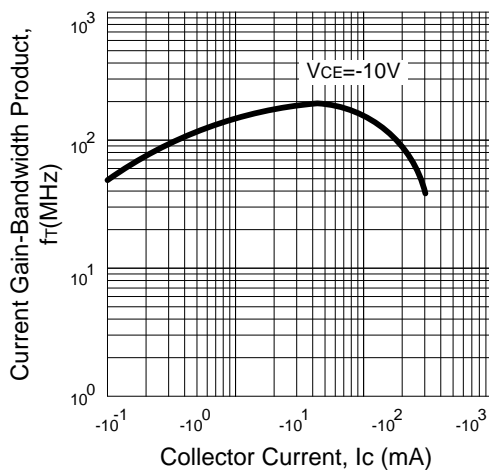


Fig.5 Current Gain-Bandwidth Product



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.