

NPN Epitaxial Silicon Transistor

1 Description

The MMBT5401 is a medium power low voltage transistor

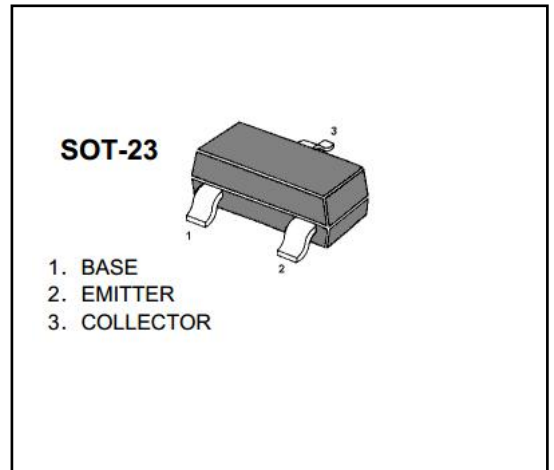
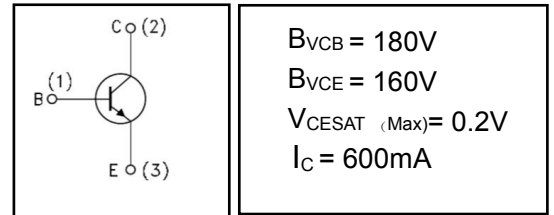
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2 Features

- High current output up to 0.6A
- Low saturation voltage
- Complement to MMBT5401

3 Applications

- WELL SUITABLE FOR PORTABLE EQUIPMENT
- SMALL LOAD SWITCH TRANSISTOR WITH
- HIGH GAIN AND LOW SATURATION VOLTAGE



4 Electrical Characteristics

4.1 Absolute Maximum Ratings (T_c=25°C, unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V _{CBO}	180	V
Collector-Emitter Voltage	V _{CEO}	160	V
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current (DC)	I _C	600	mA
*Collector Current (Pulse)	I _{CP}	900	mA
Base Current (DC)	I _B	100	mA
Collector Dissipation (T _c =25°C)	P _C	300	mW
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	- 55 ~ 150	°C

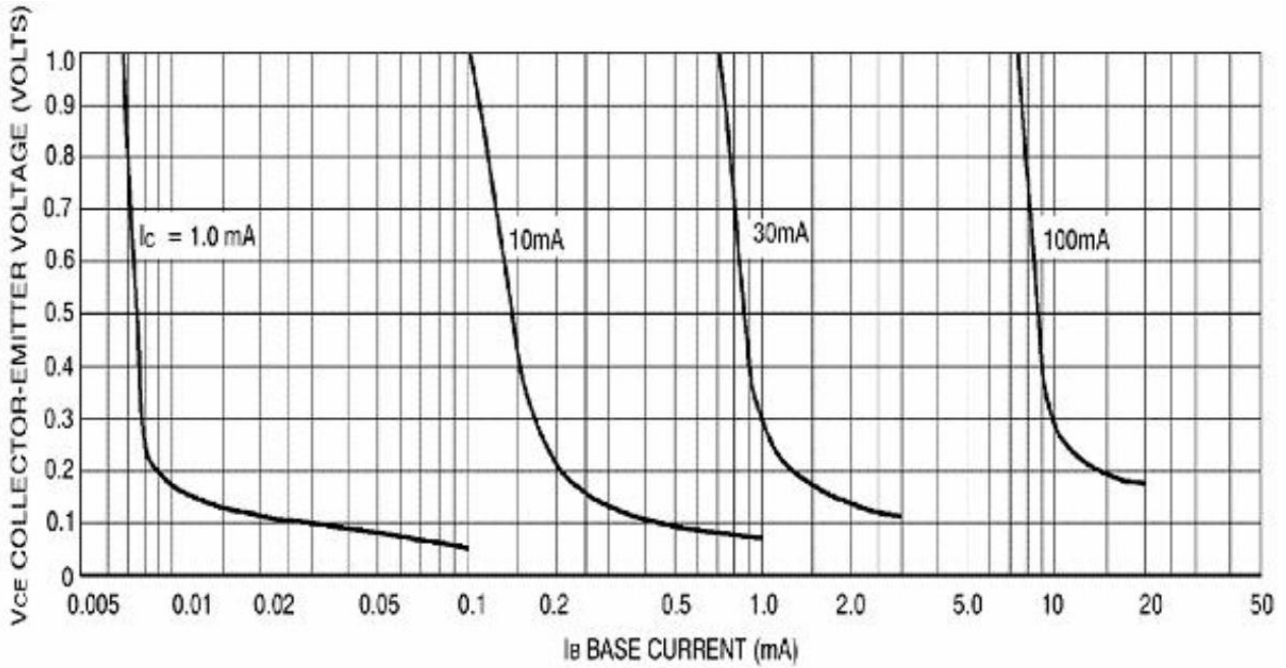
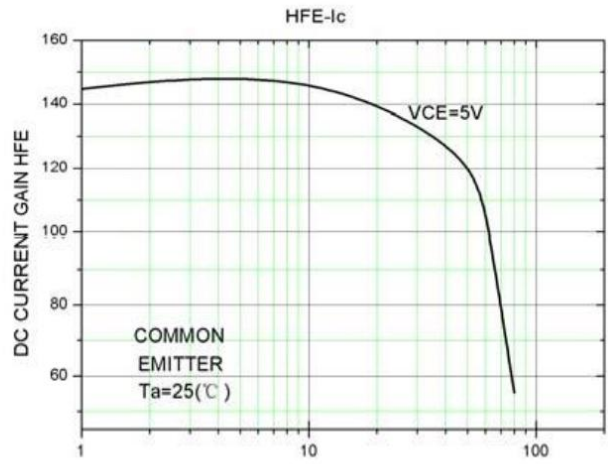
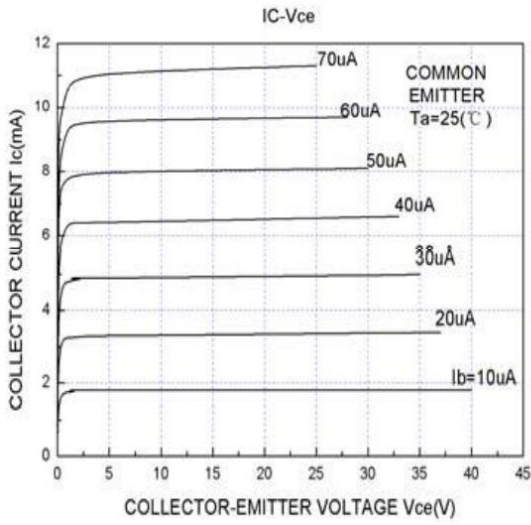
* PW≤10ms, Duty Cycle≤50%

4.2 Electrical Characteristics (Tc=25°C, unless otherwise noted)

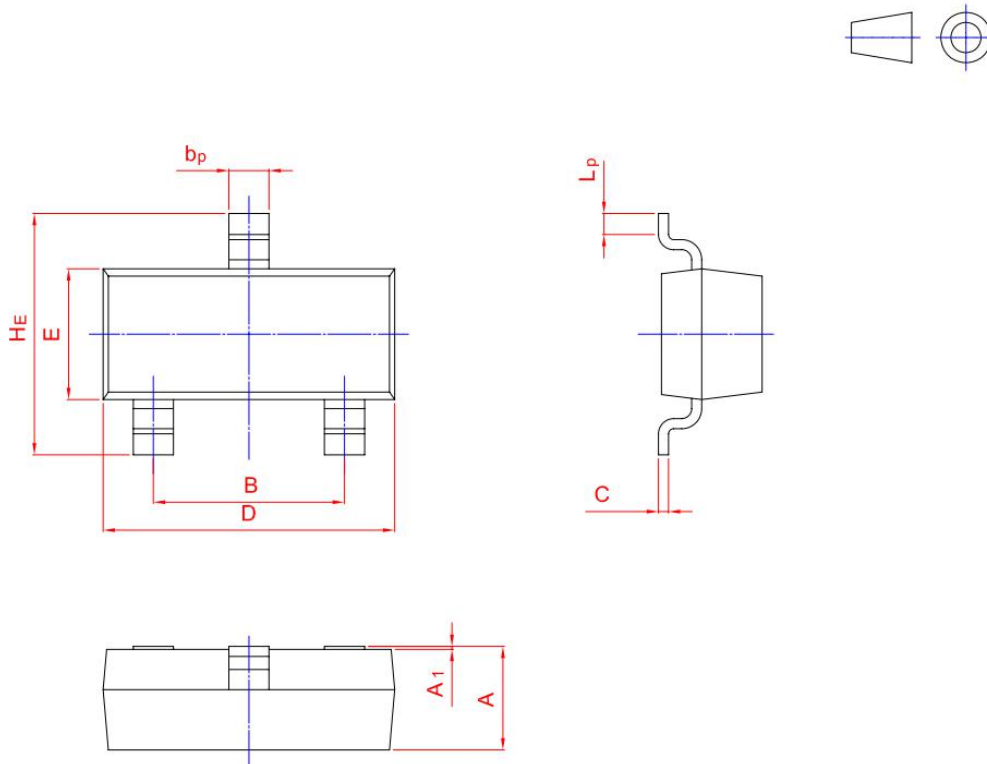
SYMBOL	PARAMETER	Test Conditions	Min	Typ	Max	Unit
I _{CES}	Collector Cut-off Current (V _{BE} = 0)	V _{CE} =120V	-	-	100	nA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} =4V	-	-	100	nA
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage (I _B = 0)	I _C =1mA	160	-	-	V
V _{(BR)CBO}	Collector-Base Breakdown Voltage (I _E = 0)	I _C =100uA	180	-	-	V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage (I _C = 0)	I _E =100uA	6	-	-	V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C =10mA I _B =1mA I _C =50mA I _B =5mA	-	-	0.15 0.2	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C =10mA I _B =1mA I _C =50mA I _B =5mA	-	-	1.0 1.0	
h _{FE}	DC Current Gain	I _C =1mA, V _{CE} =5V	80	-	-	
		I _C =10mA, V _{CE} =5V*	100	-	300	
		I _C =50mA, V _{CE} =5V	50	-	300	
f _T	Transition Frequency	V _{CE} =10V, I _C =10mA, f=100MHZ	100	-	300	MHZ
C _{ob}	Collector output capacitance	V _{CB} =10V, I _E =0, f=1MHz	-	-	6	pF
C _{ib}	Input capacitance	V _{BE} =10V, I _C =0, f=1MHz	-	-	20	pF
NF	Noise figure	V _{CE} =5V, I _C =0.25mA, f=10Hz to 15.7KHz, R _s =1kΩ	-	-	8	dB

*Pulse test: pulse width ≤300μs, duty cycle ≤ 2.0%.

5 Typical characteristics diagrams



6 Dimensions



UNIT	A	B	b _p	C	D	E	HE	A ₁	L _p
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20

7 Attentions

- ROUM Semiconductor Technology CO.,LTD. reserves the right to change the specification without prior notice! The customer should obtain the latest version of the information before making the order and verify that the information is complete and up to date.
- It is the responsibility of the purchaser for any failure or failure of any semiconductor product under certain conditions. It is the responsibility of the purchaser to comply with safety standards and to take safety measures in the system design and machine manufacturing of Roma products in order to avoid potential risk of failure. Injury or property damage.
- Product promotion is endless, our company will be dedicated to provide customers with better products.

8 Appendix

Revision history:

Date	REV.	Description	Page
2017.08.11	1.0	Original	