

FEATURES

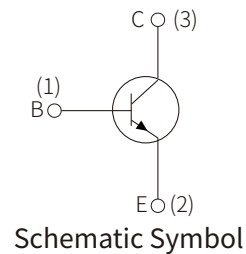
- Complementary to MMBT5401Q
- Ideal for Medium Power Amplification and Switching
- Meet AEC-Q101 Requirements

MECHANICAL DATA

- SOT-23 small outline plastic package
- Epoxy UL: 94V-0
- Mounting position: Any

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003



MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	180	V
Collector-Emitter Voltage	V_{CEO}	160	
Emitter-Base Voltage	V_{EBO}	6	
Collector Current	I_C	600	mA
Collector Power Dissipation	P_C	300	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	416	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =100uA, I _E =0	180			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =1mA, I _B =0	160			
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =10uA, I _C =0	6			
Collector cut-off current	I _{CBO}	V _{CB} =120V, I _E =0			50	nA
Emitter cut-off current	I _{EBO}	V _{EB} =4V, I _C =0			50	
DC current gain	h _{FE(1)}	V _{CE} =5V, I _C =1mA	80			
	h _{FE(2)}	V _{CE} =5V, I _C =10mA	100		300	
	h _{FE(3)}	V _{CE} =5V, I _C =50mA	30			
Collector-emitter saturation voltage	V _{CE(sat)1*}	I _C =10mA, I _B =1mA			0.15	V
	V _{CE(sat)2*}	I _C =50mA, I _B =5mA			0.2	
Base-emitter saturation voltage	V _{BE(sat)1*}	I _C =10mA, I _B =1mA			1	
	V _{BE(sat)2*}	I _C =50mA, I _B =5mA			1	
Transition frequency	f _T	V _{CE} =10V, I _C =10mA, f=100MHz	100		300	MHz
Collector output capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=100MHz			6	pF

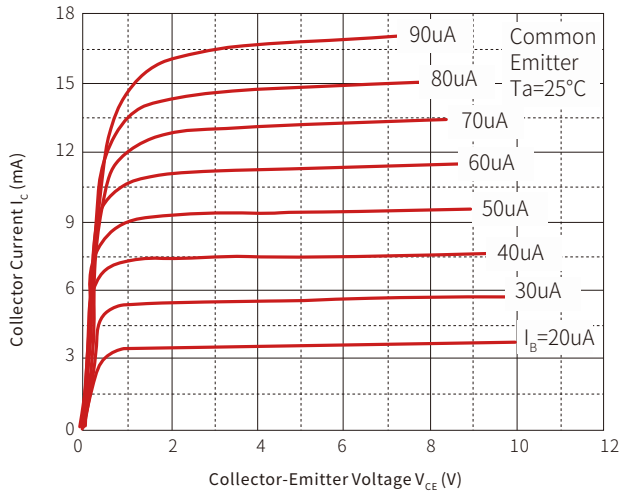
*Pulse test: pulse width ≤300μs, duty cycle ≤2.0%.

CLASSIFICATION OF H_{FE(1)}

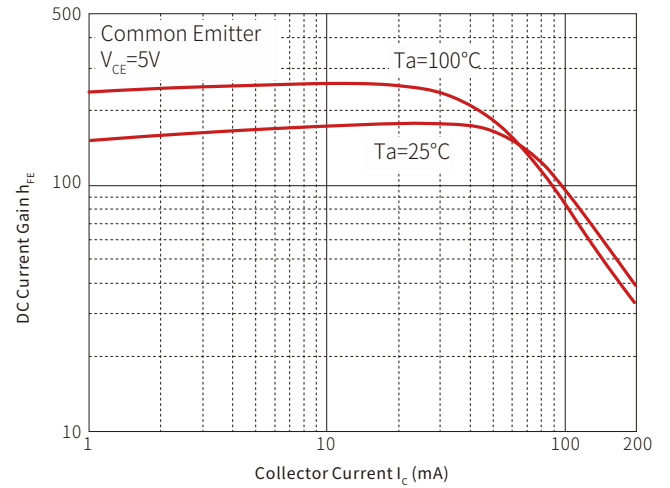
Range	100-300
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TYPICAL CHARACTERISTICS

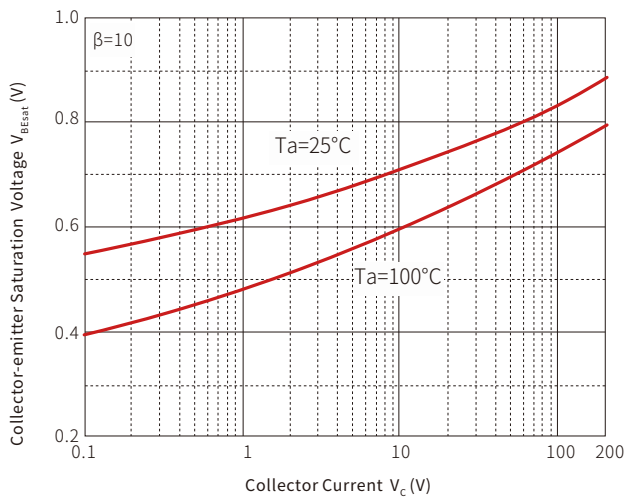
Static Characteristic



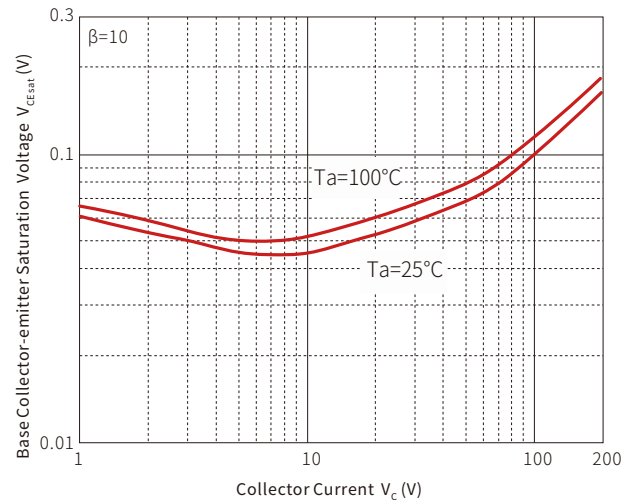
h_{FE} — I_C

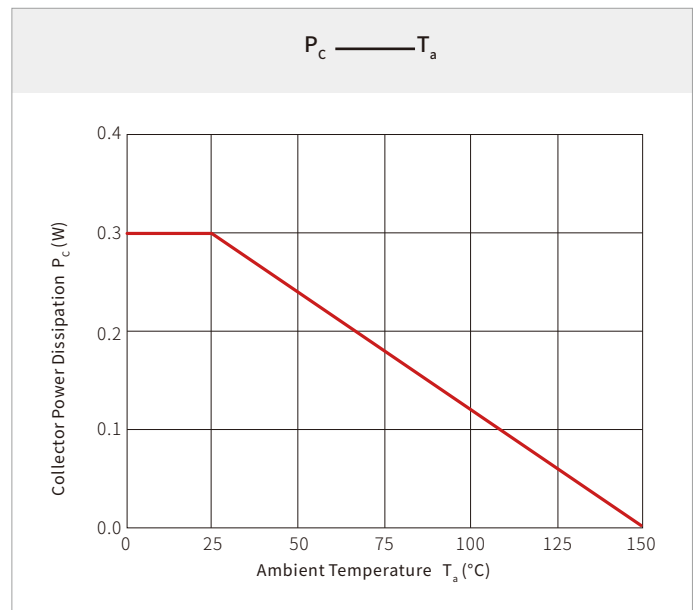
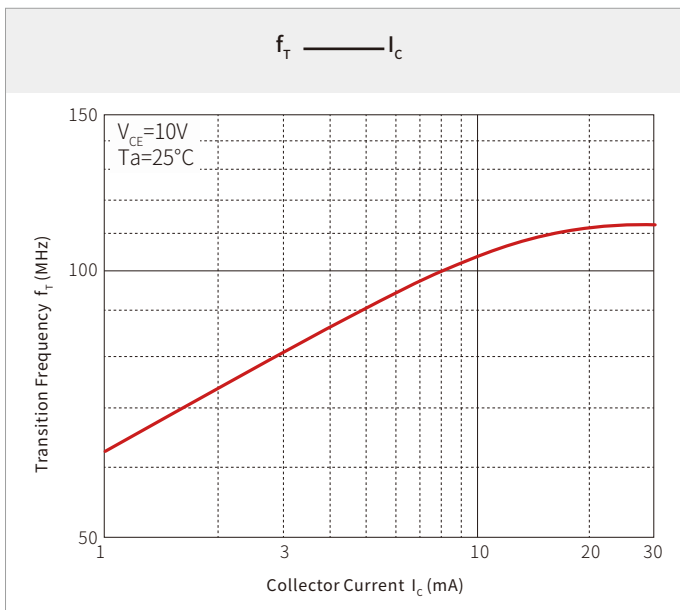
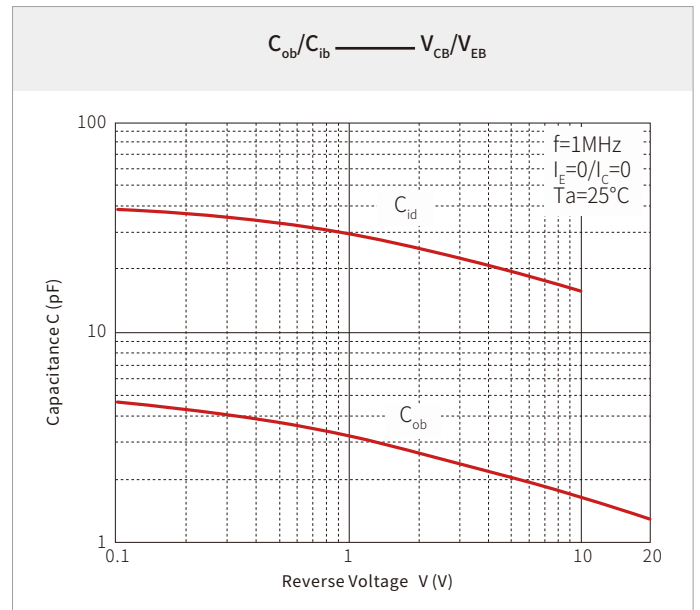
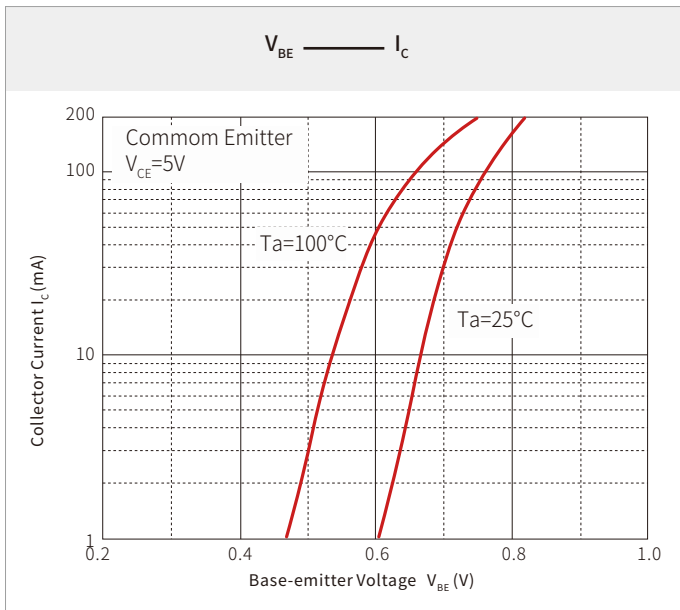


$V_{BE sat}$ — I_C

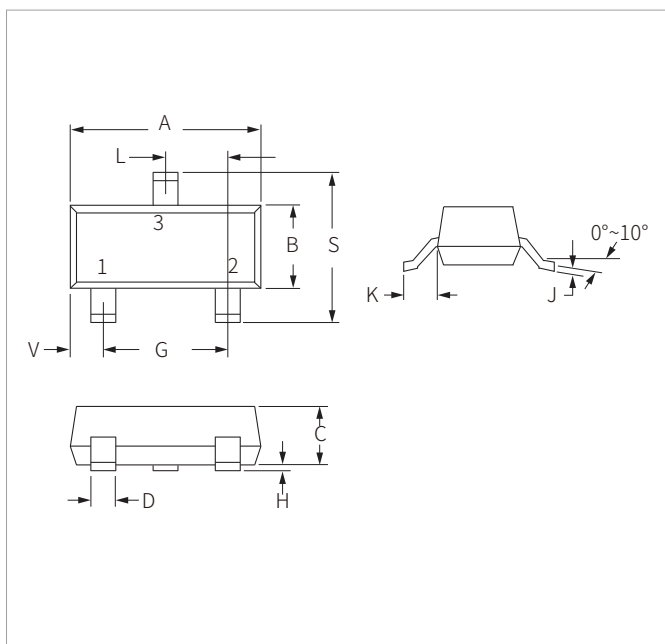


$V_{CE sat}$ — I_C



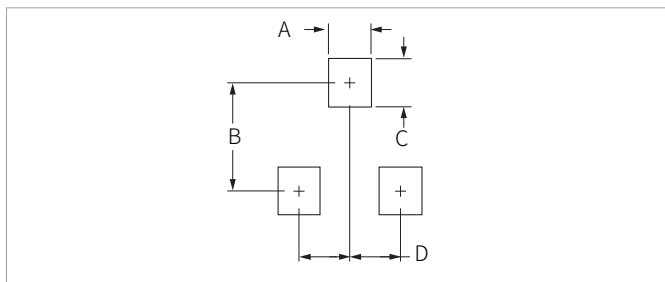


SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.05	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.90	1.15	0.035	0.045
D	0.37	0.50	0.015	0.020
G	1.75	2.05	0.069	0.081
H	0.01	0.100	0.001	0.004
J	0.085	0.180	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.65	0.083	0.104
V	0.45	0.60	0.018	0.024

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
MMBT5551Q	SOT-23	3000PCS	7"

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