

FEATURES

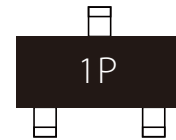
| Complementary to MMBT2907A

| Power Dissipation of 300mW

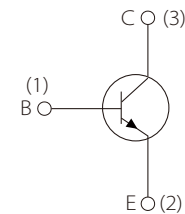
| High Stability and High Reliability



SOT-23



Marking



Schematic Symbol

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}	75	V
Collector-Emitter Voltage	V_{CEO}	40	
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	$R_{\theta JA}$	417	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

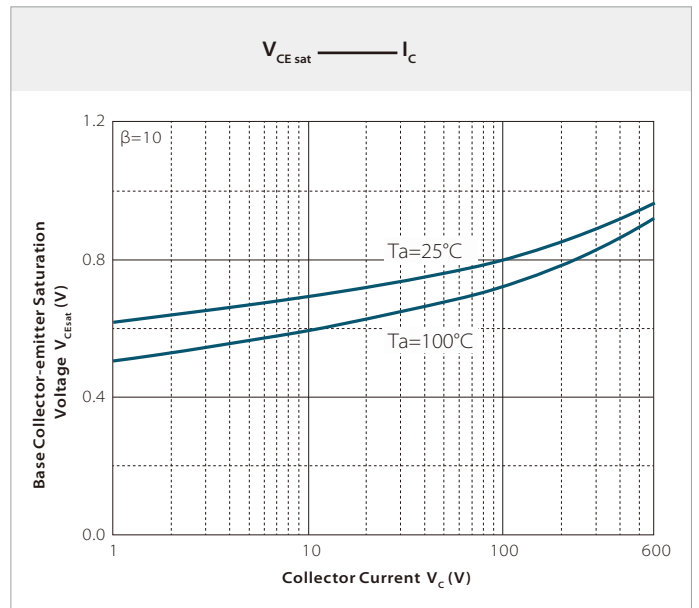
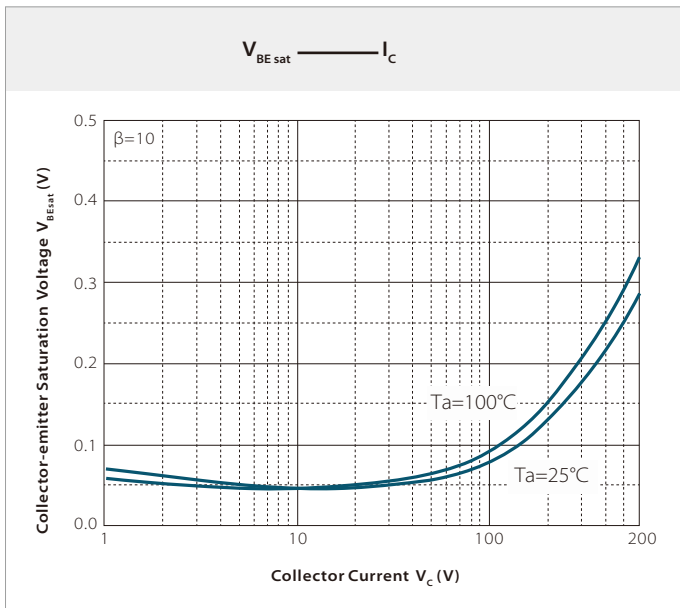
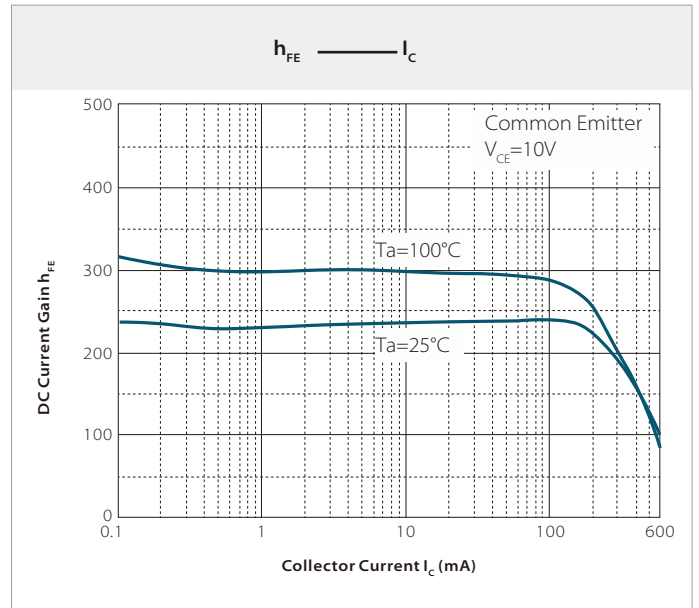
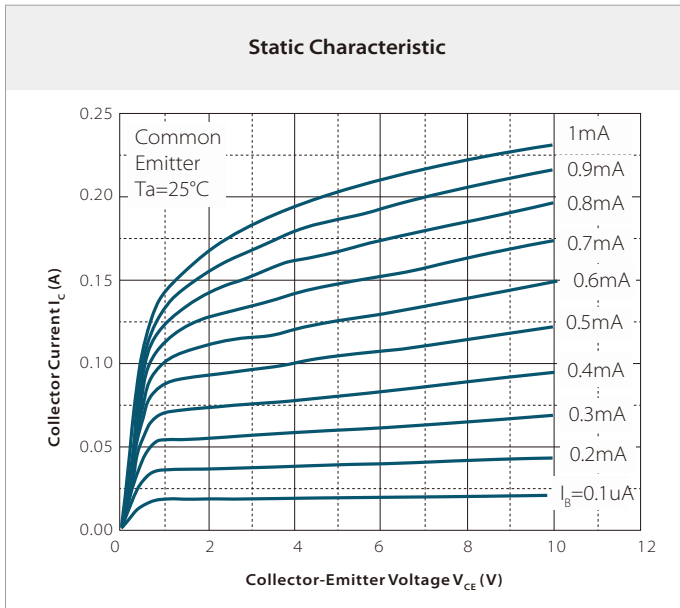
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =10μA, I _E =0	75			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =10mA, I _B =0	40			
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =10μA, I _C =0	6			
Collector cut-off current	I _{CEX}	V _{CE} =30V, V _{EB(off)} =3V			10	nA
Collector cut-off current	I _{CBO}	V _{CB} =60V, I _E =0			10	
Emitter cut-off current	I _{EBO}	V _{EB} =3V, I _C =0			100	
DC current gain	h _{FE(1)}	V _{CE} =10V, I _C =150mA	100		300	
	h _{FE(2)}	V _{CE} =10V, I _C =0.1mA	40			
	h _{FE(3)}	V _{CE} =10V, I _C =500mA	42			
Collector-emitter saturation voltage	V _{CE(sat)1*}	I _C =500mA, I _B =50mA			1.00	V
	V _{CE(sat)2*}	I _C =150mA, I _B =15mA			0.30	
Base-emitter saturation voltage	V _{BE(sat)1*}	I _C =500mA, I _B =50mA			2.00	
	V _{BE(sat)2*}	I _C =150mA, I _B =15mA			1.20	
Transition frequency	f _T	V _{CE} =20V, I _C =20mA, f=100MHz	300			MHz
Delay time	td	V _{CC} =30V, V _{BE(off)} =-0.5V I _C =150mA, I _{B1} =15mA			10	nS
Rise time	tr				25	
Storage time	ts				225	
Fall time	tf		V _{CC} =30V, I _C =150mA, I _{B1} =I _{B2} =15mA			

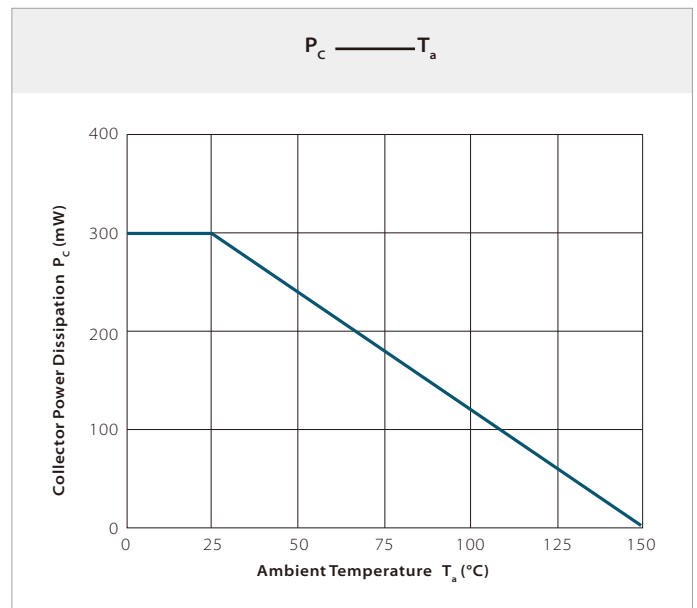
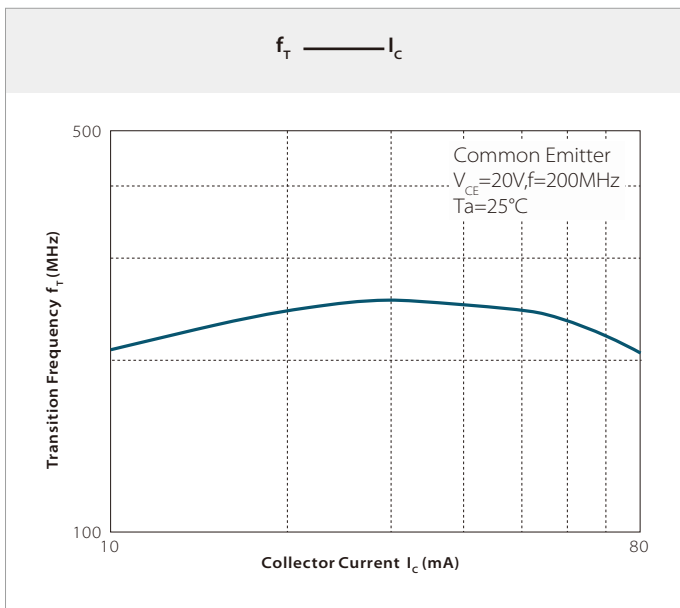
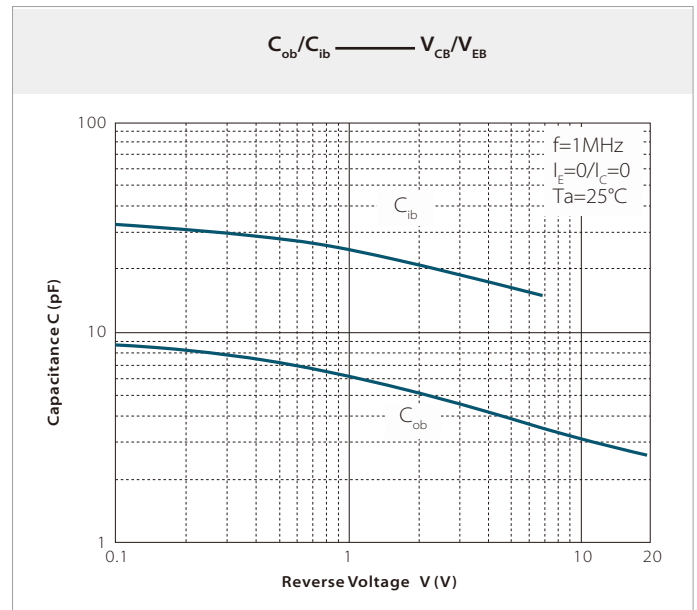
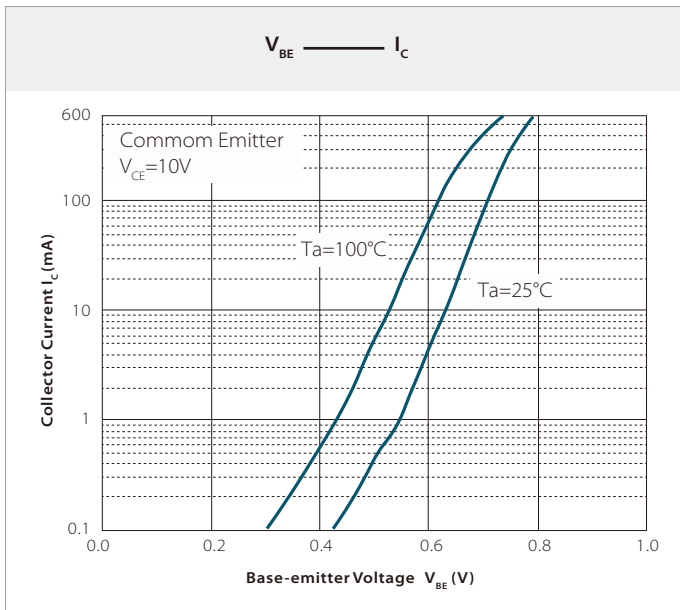
*Pulse test: pulse width ≤300μs, duty cycle ≤ 2.0%.

CLASSIFICATION OF H_{FE(1)}

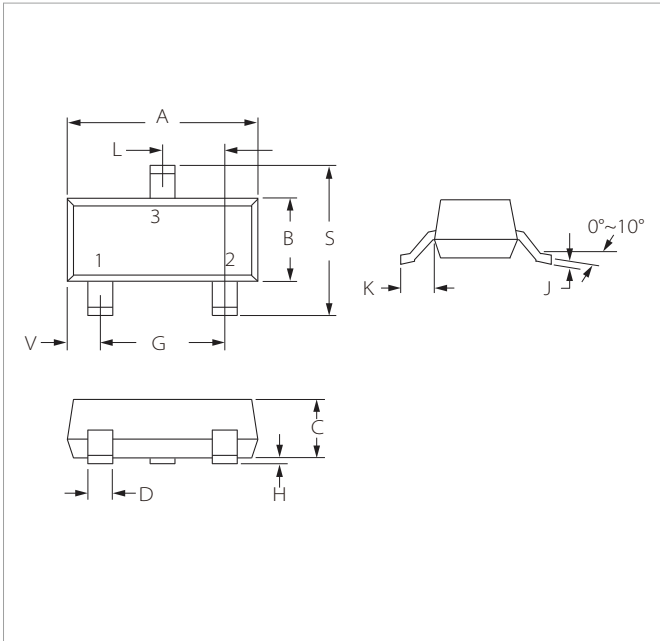
Rank	L	H
Range	100-200	200-300

TYPICAL CHARACTERISTICS



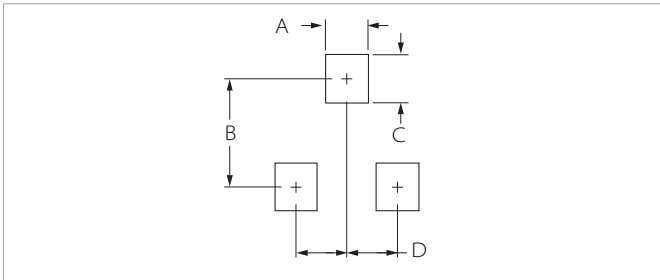


SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.89	1.11	0.035	0.044
D	0.37	0.50	0.015	0.020
G	1.78	2.04	0.070	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	2.64	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
MMBT2222A	SOT-23	3000PCS	7"

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