

FEATURES

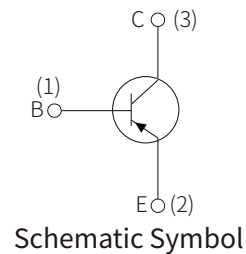
- | Epitaxial planar die construction
- | Complementary NPN Type available(MMBT2222AQ)
- | Meet AEC-Q101 Requirements

APPLICATIONS

- | 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°C)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	-60	V
Collector-Emitter Voltage	V _{CEO}	-60	
Emitter-Base Voltage	V _{EBO}	-5	
Collector Current -Continuous	I _C	-600	mA
Total Device Dissipation	P _D	250	mW
Thermal Resistance Junction to Ambient	R _{θJA}	500	°C/W
Operation Junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

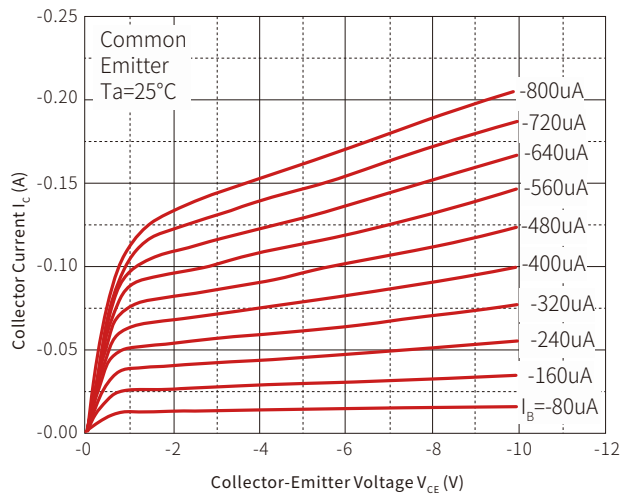
ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C = -10mA, I_B = 0$	-60			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-5			
Collector cut-off current	I_{CEX}	$V_{CE} = -30V, V_{BE(off)} = -0.5V$			-50	nA
Collector cut-off current	I_{CBO}	$V_{CB} = -50V, I_E = 0$			-20	
Base cut-off current	I_{EBO}	$V_{EB} = -3V, I_C = 0$			-10	
DC current gain	$h_{FE(1)}$	$V_{CE} = -10V, I_C = -150mA$	100		300	
	$h_{FE(2)}$	$V_{CE} = -10V, I_C = -0.1mA$	75			
	$h_{FE(3)}$	$V_{CE} = -10V, I_C = -1mA$	100			
	$h_{FE(4)}$	$V_{CE} = -10V, I_C = -10mA$	100			
	$h_{FE(5)}$	$V_{CE} = -10V, I_C = -500mA$	50			
Collector-emitter saturation voltage	$V_{CE(sat)1}^*$	$I_C = -150mA, I_B = -15mA$			-0.4	V
	$V_{CE(sat)2}^*$	$I_C = -500mA, I_B = -50mA$			-1.6	
Base-emitter saturation voltage	$V_{BE(sat)1}^*$	$I_C = -150mA, I_B = -15mA$			-1.3	
	$V_{BE(sat)2}^*$	$I_C = -500mA, I_B = -50mA$			-2.6	
Transition frequency	f_T	$V_{CE} = -20V, I_C = -50mA, f = 100MHz$	200			MHz
Delay time	td	$V_{CE} = -30V$ $I_C = -150mA, I_{B1} = -15mA$			10	nS
Rise time	tr				25	
Storage time	ts	$V_{CE} = -6V, I_C = -150mA,$ $I_{B1} = -I_{B2} = -15mA$			225	
Fall time	tf				60	

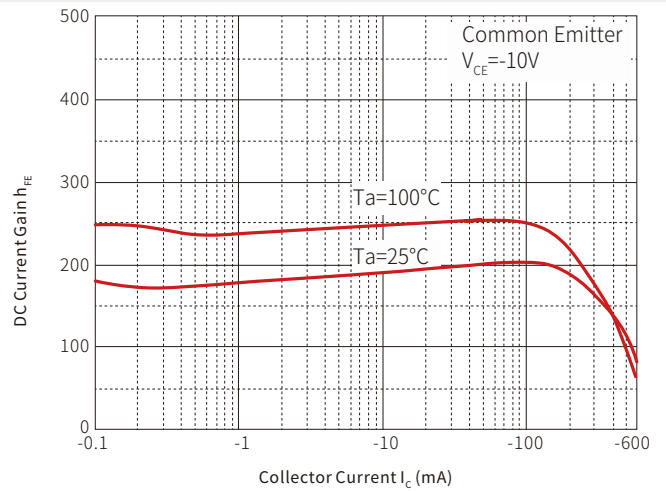
*Pulse test: $t_p \leq 300\mu s, \delta \leq 0.02$

TYPICAL CHARACTERISTICS

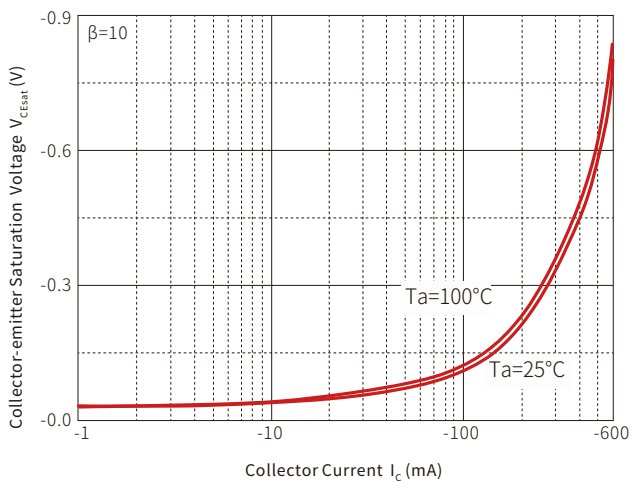
Static Characteristic



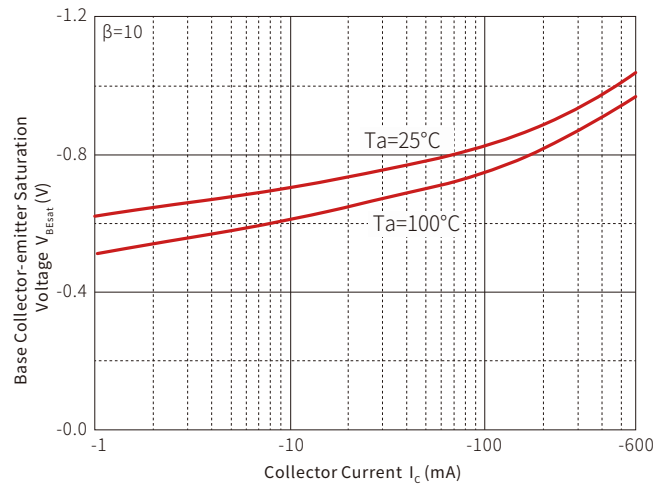
h_{FE} — I_C

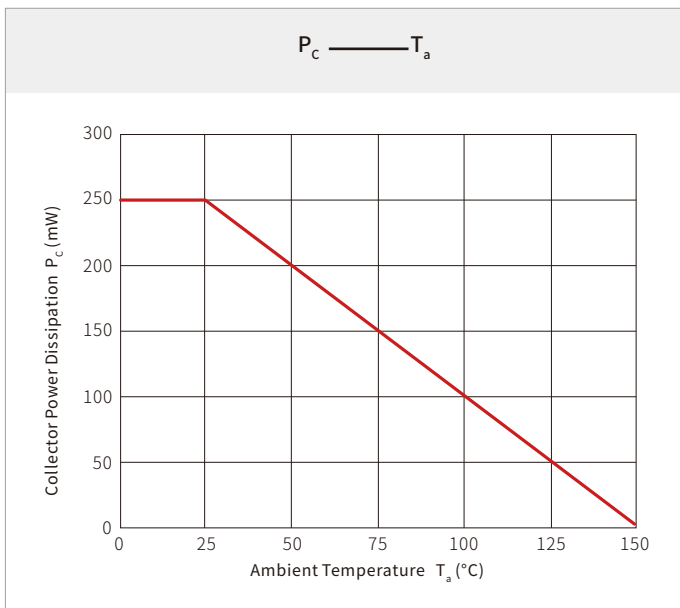
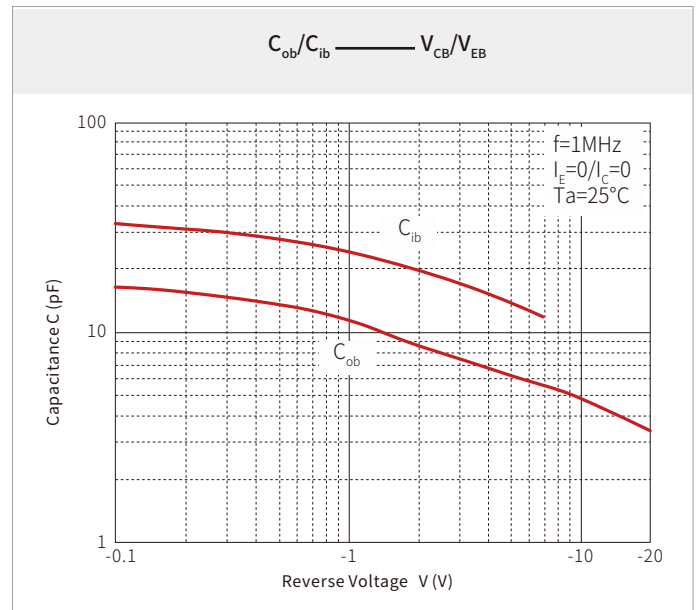
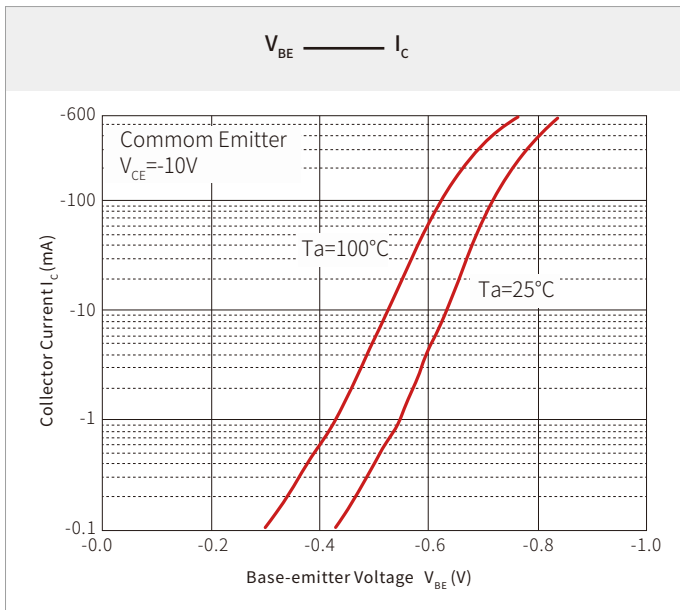


$V_{CE sat}$ — I_C

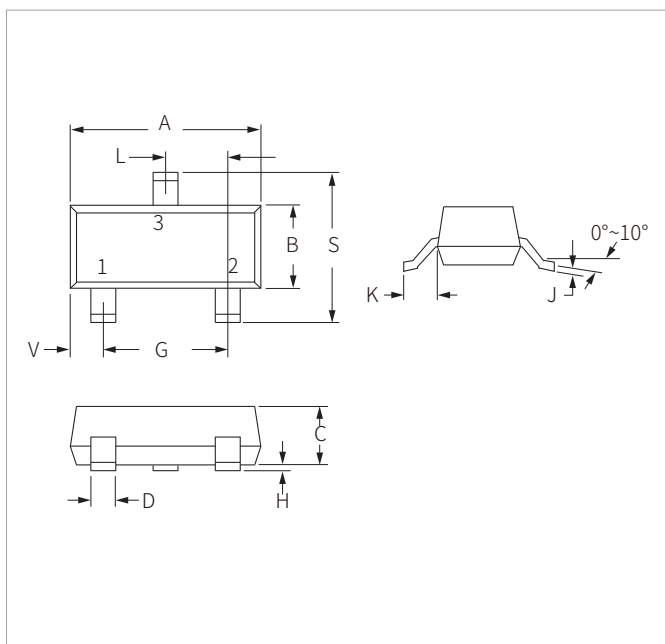


$V_{BE sat}$ — I_C



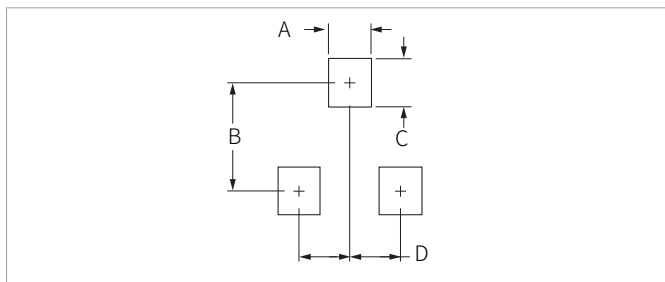


SOT-23 PACKAGE INFORMATION



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
MMBT2907AQ	SOT-23	3000PCS	7"

Headquarters

No.3387 Shendu Road
Pujiang I&E Park
Minhang Shanghai China
201000

Hotline

400-021-5756

Web

<https://www.semiware.com>

Sales Center

Tel: 86-21-3463-7458
Email: sales18@semiware.com

Customer Service

Tel: 86-21-5484-1001
Email: sales17@semiware.com

Technical Support

Tel: 86-21-3463-7654
Email: fae01@semiware.com

Complaint & Suggestions

Tel: 86-21-3463-7172
Ext: 8868
Email: cs03@semiware.com

By QR Code

Website



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