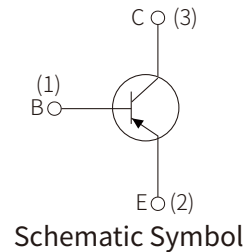


FEATURES

- Complementary to MMBT5551
- 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 ($T_A=25^{\circ}\text{C}$)

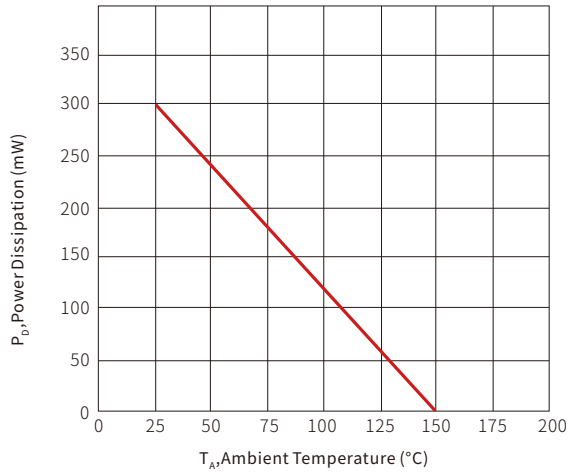
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-160	V
Collector-Emitter Voltage	V_{CEO}	-150	
Emitter-Base Voltage	V_{EBO}	-5	
Collector Current -Continuous	I_C	-0.6	A
Collector Power Dissipation	P_C	0.3	W
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

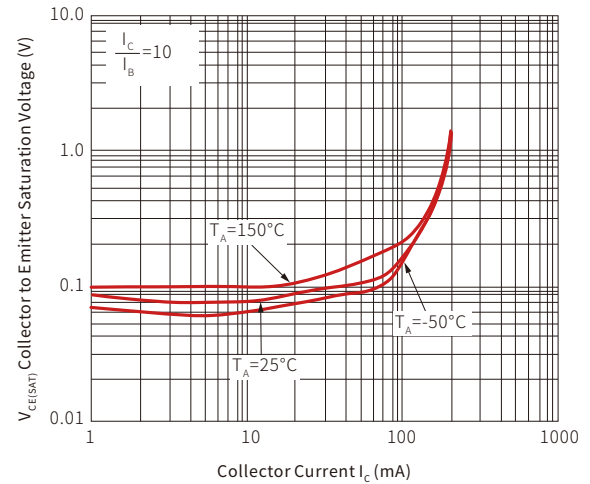
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-100uA, I _E =0	-160			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =-1mA, I _B =0	-150			
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-10uA, I _C =0	-5			
Collector cut-off current	I _{CBO}	V _{CB} = -120V, I _E =0			-0.1	uA
Emitter cut-off current	I _{EBO}	V _{EB} =-4V, I _C =0			-0.1	
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	50			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =-50mA, I _B =-5mA			-0.5	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C =-50mA, I _B =-5mA			-1	
Transition frequency	f _T	V _{CE} =-5V, I _C =-10mA	100			MHz

TYPICAL CHARACTERISTICS

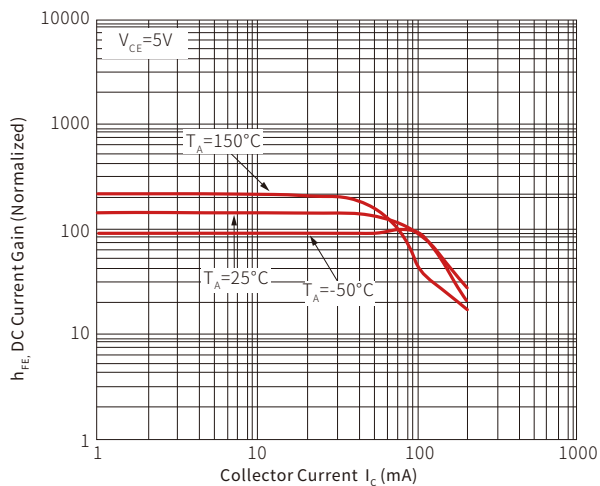
Max Power Dissipation vs Ambient Temperature



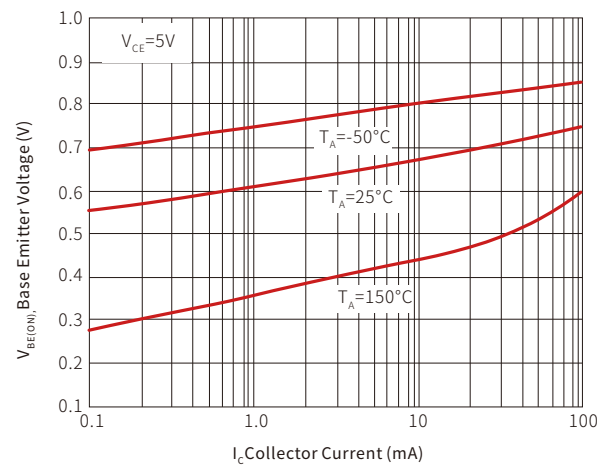
Collector Emitter Saturation Voltage vs. Collector Current

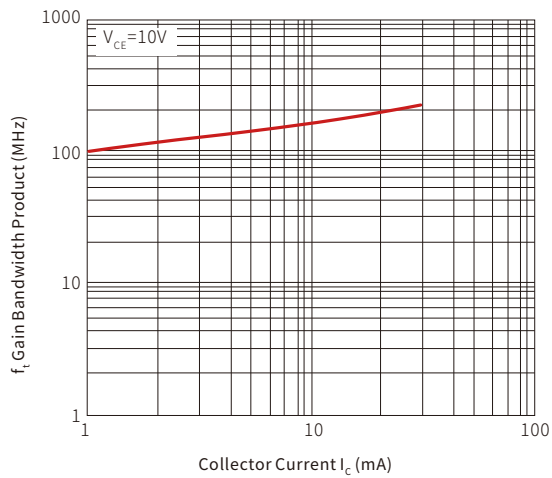


DC Current Gain vs. Collector Current



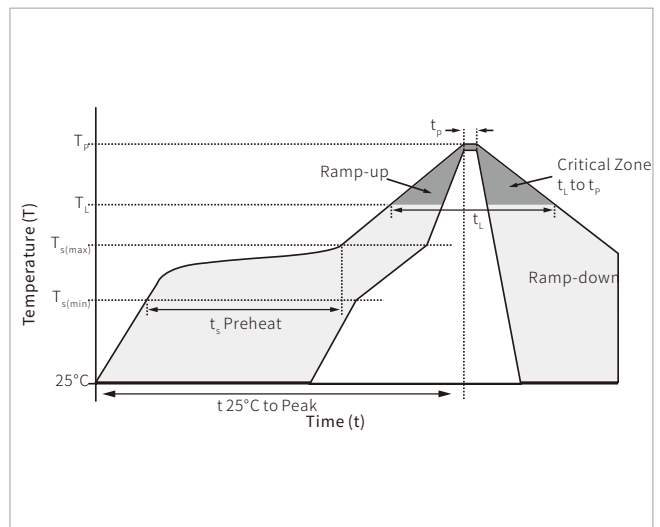
Base Emitter vs. Collector Current



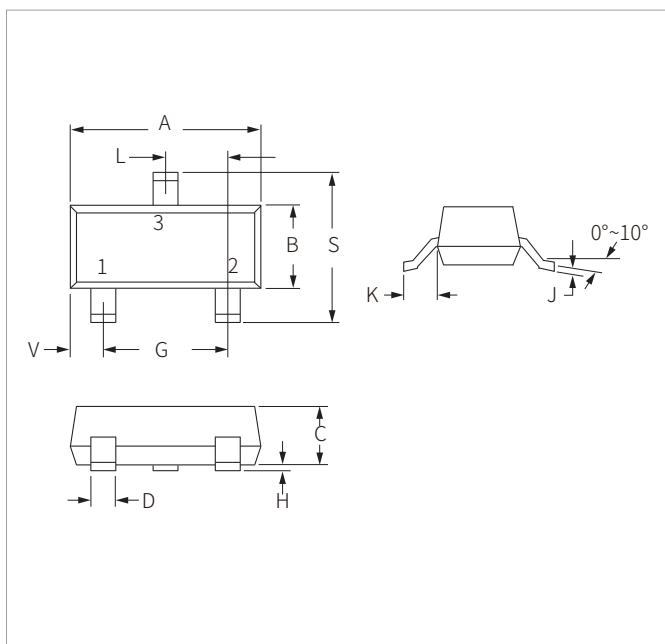
Gain Bandwidth Product vs Collector Current


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

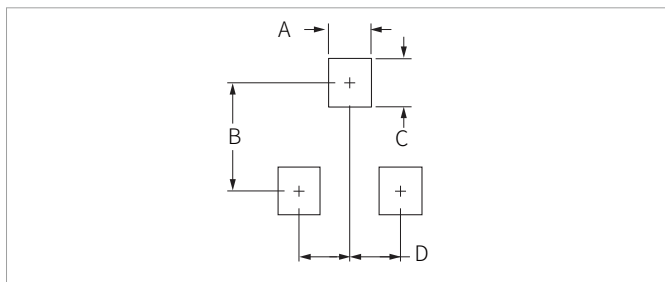


SOT-23 PACKAGE INFORMATION



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
MMBT5401Q	SOT-23	3000PCS	7"

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By QR Code

Website



Wechat

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