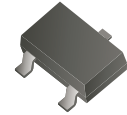


MMBT5401-G (PNP)

RoHS Device



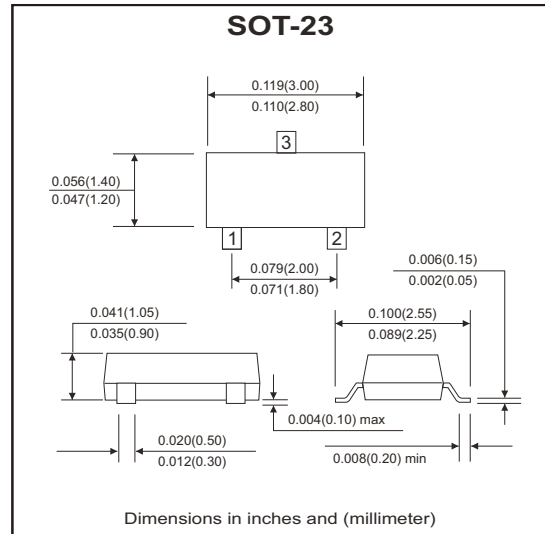
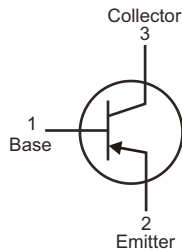
Features

- Epitaxial planar die construction.
- Complementary NPN type available (MMBT5551-G).
- Ideal for medium power amplification and switching.

Mechanical data

- Case: SOT-23, molded plastic.

Circuit Diagram



Maximum Ratings (at TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	-160	V
Collector-emitter voltage	V_{CEO}	-150	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current - continuous	I_C	-0.6	A
Collector dissipation	P_C	0.3	W
Junction and storage temperature	T_J, T_{STG}	-55 ~ +150	°C

Electrical Characteristics (at TA=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Max	Unit
Collector-base breakdown voltage	$I_C = -100\mu A, I_E = 0$	$V_{(BR)CBO}$	-160		V
Collector-emitter breakdown voltage	$I_C = -1mA, I_B = 0$	$V_{(BR)CEO}$	-150		V
Emitter-base breakdown voltage	$I_E = -10\mu A, I_C = 0$	$V_{(BR)EBO}$	-5		V
Collector cut-off current	$V_{CB} = -120V, I_E = 0$	I_{CBO}		-0.1	μA
Emitter cut-off current	$V_{EB} = -4V, I_C = 0$	I_{EBO}		-0.1	μA
DC current gain	$V_{CE} = -5V, I_C = -1mA$	$h_{FE(1)}$	80		
	$V_{CE} = -5V, I_C = -10mA$	$h_{FE(2)}$	100	200	
	$V_{CE} = -5V, I_C = -50mA$	$h_{FE(3)}$	50		
Collector-emitter saturation voltage	$I_C = -50mA, I_B = -5mA$	$V_{CE(sat)}$		-0.5	V
Base-emitter saturation voltage	$I_C = -50mA, I_B = -5mA$	$V_{BE(sat)}$		-1	V
Transition frequency	$V_{CE} = -5V, I_C = -10mA, f = 30MHz$	f_T	100		MHz

Company reserves the right to improve product design, functions and reliability without notice.

REV:C

Rating and Characteristic Curves (MMBT5401-G)

Fig.1 - Max Power Dissipation vs. Ambient Temperature

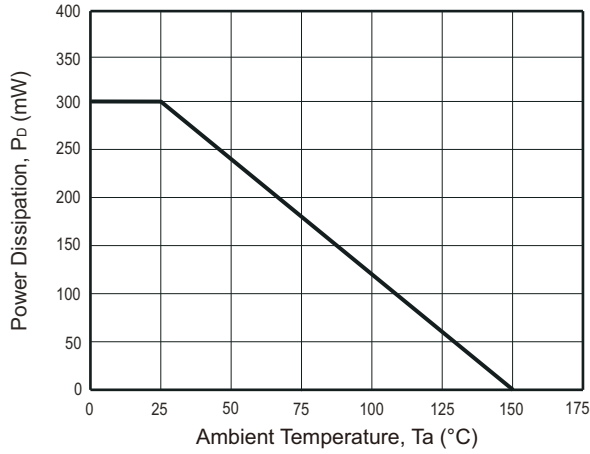


Fig.2 - Collector Emitter Saturation Voltage vs. Collector Current

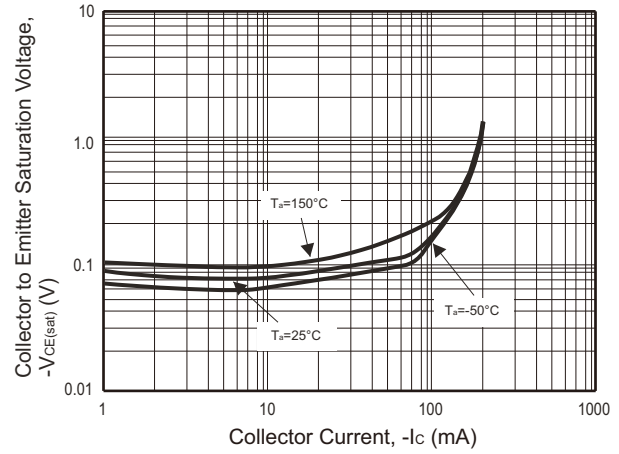


Fig.3 - DC Current Gain vs. Collector Current

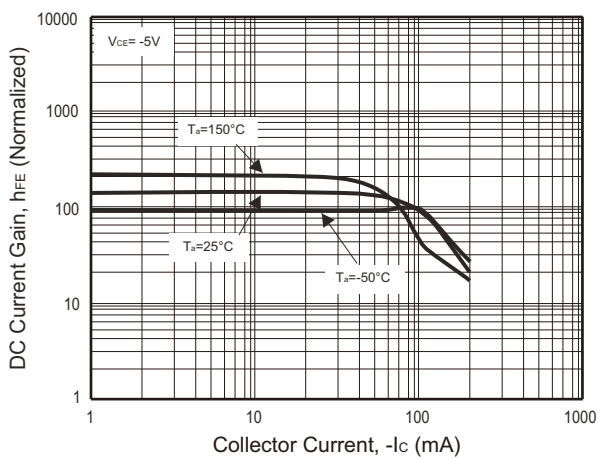


Fig.4 - Base Emitter Voltage vs. Collector Current

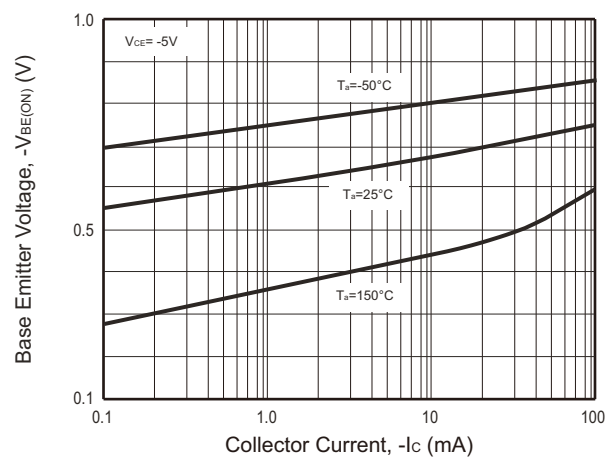
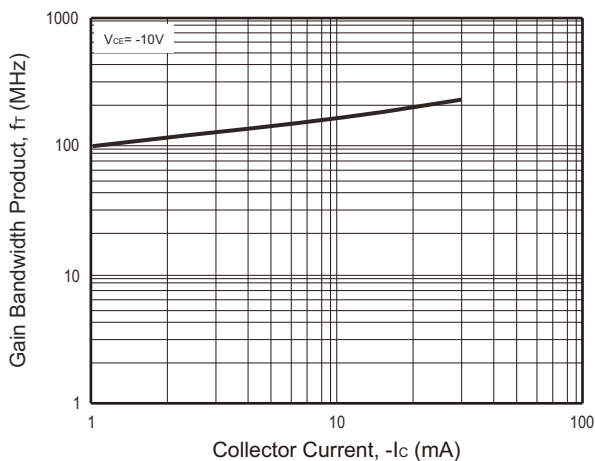
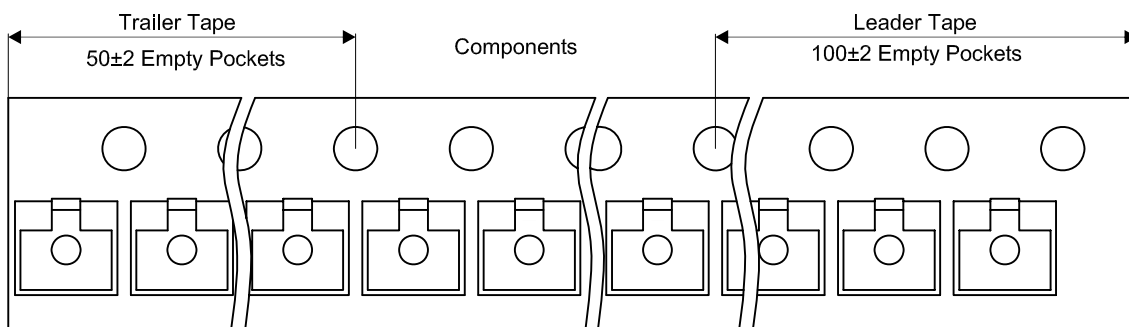
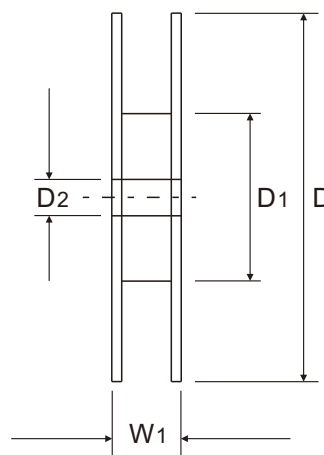
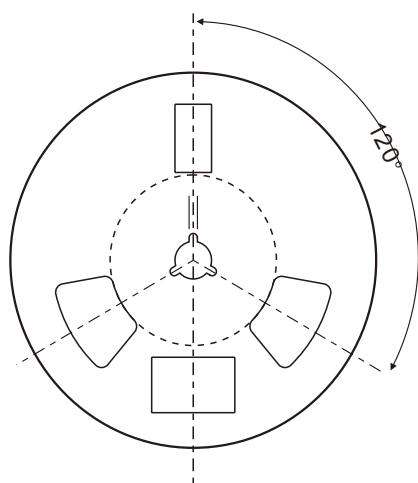
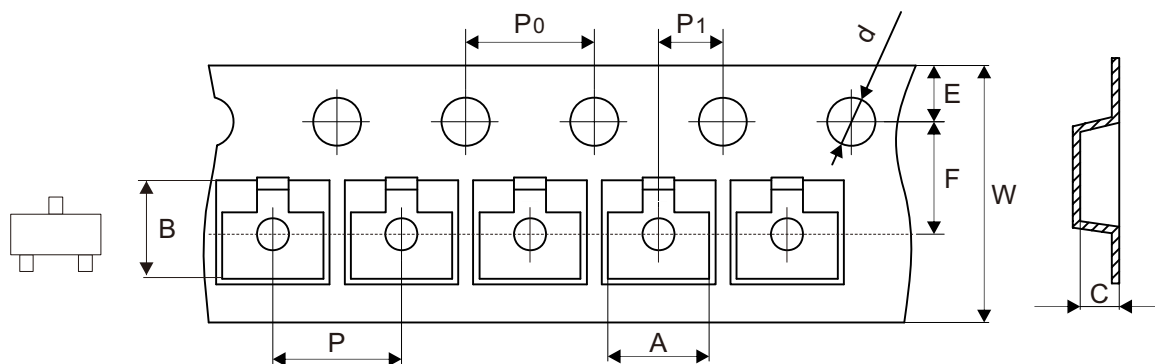


Fig.5 - Gain Bandwidth Product vs. Collector Current



Reel Taping Specification



SOT-23	SYMBOL	A	B	C	d	D	D ₁	D ₂
	(mm)	3.10 ± 0.10	2.85 ± 0.10	1.40 ± 0.10	1.55 ± 0.10	178 ± 1	50.0 MIN.	13.0 ± 0.20
	(inch)	0.122 ± 0.004	0.112 ± 0.004	0.055 ± 0.004	0.061 ± 0.004	7.008 ± 0.04	1.969 MIN.	0.512 ± 0.008

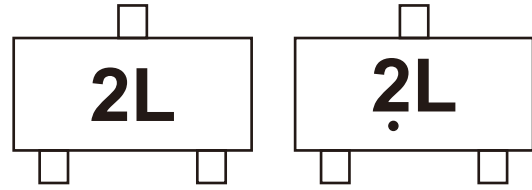
SOT-23	SYMBOL	E	F	P	P ₀	P ₁	W	W ₁
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	8.00 ± 0.30	14.4 MAX.
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.315 ± 0.012	0.567 MAX.

Company reserves the right to improve product design , functions and reliability without notice.

REV:C

Marking Code

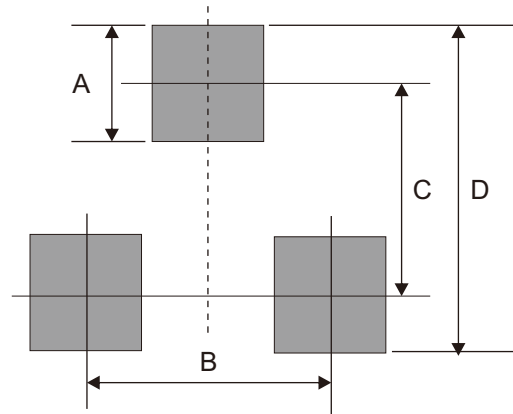
Part Number	Marking Code
MMBT5401-G	2L



Solid dot = Control code

Suggested P.C.B. PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.80	0.031
B	1.90	0.075
C	2.02	0.080
D	2.82	0.111



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-23	3,000	7