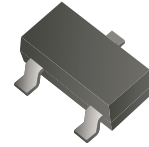


AMMBT4401-HF (NPN)

RoHS Device
Halogen Free



Features

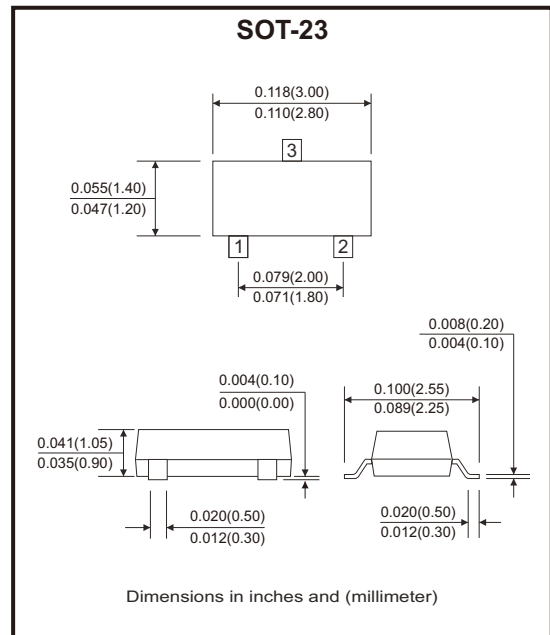
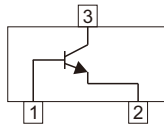
- Epoxy meets UL-94 V-0 flammability rating.
- Moisture sensitivity Level 1.
- High conductance.
- AEC-Q101 Qualified.

Mechanical data

- Case: SOT-23, molded plastic.
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102.

Circuit Diagram

- 1. Base
- 2. Emitter
- 3. Collector



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

Parameter	Symbol	Value	Unit
Collector-base voltage	V _{CBO}	60	V
Collector-emitter voltage	V _{CEO}	40	V
Emitter-base voltage	V _{EBO}	6	V
Collector current-continuous	I _c	600	mA
Total device dissipation	P _D	300	mW
Junction temperature range	T _J	-55 to +150	°C
Storage temperature range	T _{STG}	-55 to +150	°C

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

Parameter	Conditions	Symbol	Min	Max	Unit
Collector-base breakdown voltage	$I_C = 10\text{mA}, I_E = 0$	$V_{(BR)CBO}$	60		V
Collector-emitter breakdown voltage	$I_C = 1\text{mA}, I_B = 0$	$V_{(BR)CEO}$	40		V
Emitter-base breakdown voltage	$I_E = 100\mu\text{A}, I_C = 0$	$V_{(BR)EBO}$	6		V
Collector cut-off current	$V_{CB} = 35\text{V}, I_B = 0$	I_{CEO}		100	nA
Base cut-off current	$V_{CE} = 60\text{V}, I_C = 0$	I_{CBO}		100	nA
Emitter cut-off current	$V_{EB} = 3\text{V}, I_C = 0$	I_{EBO}		100	nA
DC current gain	$V_{CE} = 1\text{V}, I_C = 150\text{mA}$	h_{FE}	100	300	
Collector-emitter saturation voltage	$I_C = 150\text{mA}, I_B = 15\text{mA}$	$V_{CE(sat)}$		0.4	V
Base-emitter saturation voltage	$I_C = 150\text{mA}, I_B = 15\text{mA}$	$V_{BE(sat)}$		0.95	V
Transition frequency	$V_{CE} = 10\text{V}, I_C = 20\text{mA}, f = 100\text{MHz}$	f_r	250		MHz
Delay time	$V_{CC} = 30\text{V}, V_{BE(off)} = 0.2\text{V},$ $I_C = 150\text{mA}, I_{B1} = 15\text{mA}$	t_d		15	ns
Rise time		t_r		20	ns
Storage time	$V_{CC} = 30\text{V}, I_C = 150\text{mA},$ $I_{B1} = I_{B2} = 15\text{mA}$	t_s		225	ns
Fall time		t_f		30	ns

Rating and Characteristic Curves (AMMBT4401-HF)

Fig.1 - Static Characteristic

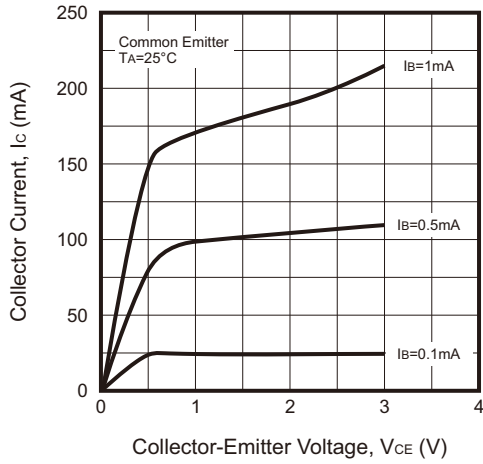


Fig.2 - P_D — T_A

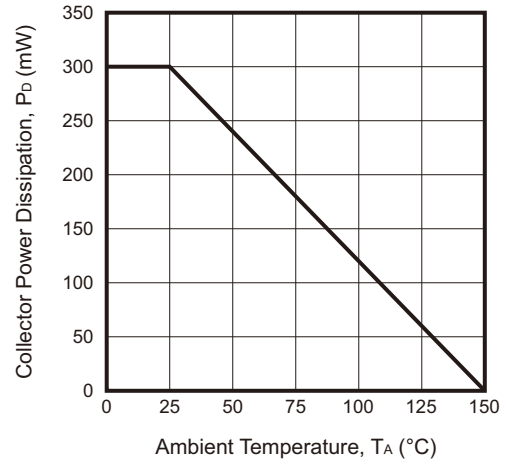


Fig.3 - V_{BEsat} — I_c

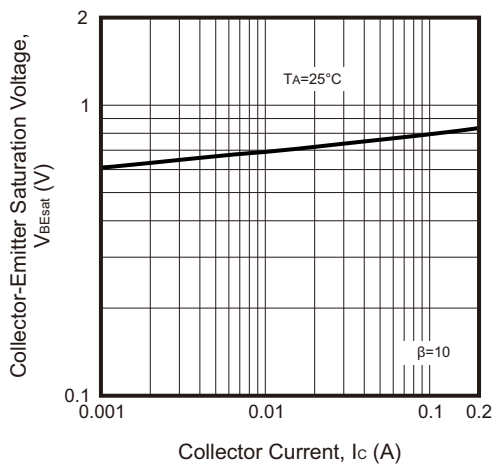


Fig.4 - V_{CEsat} — I_c

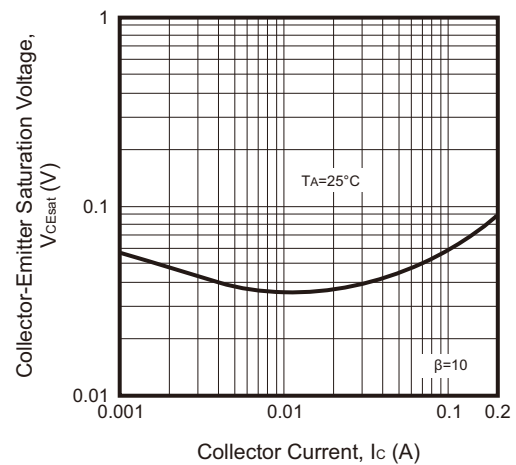
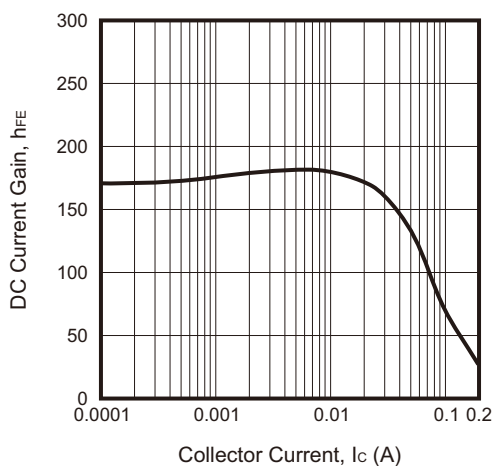


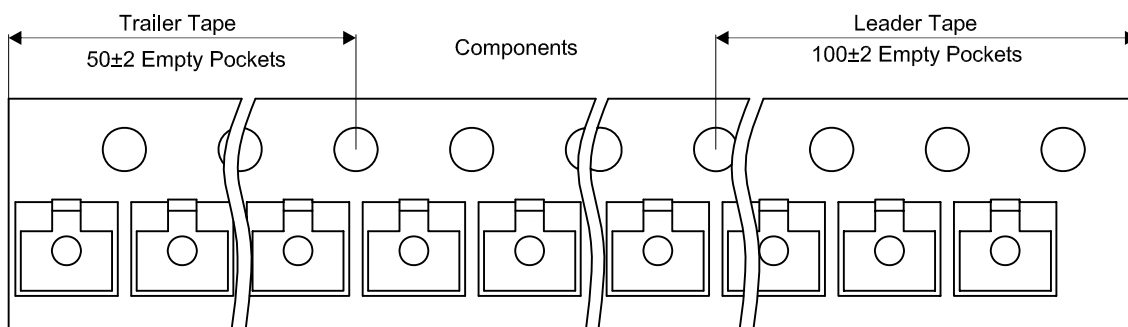
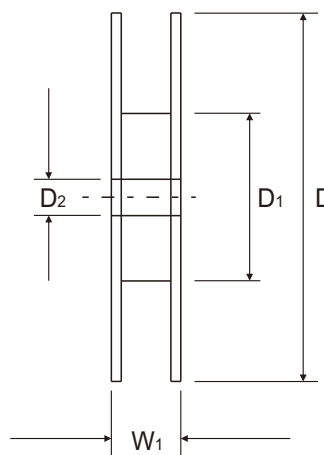
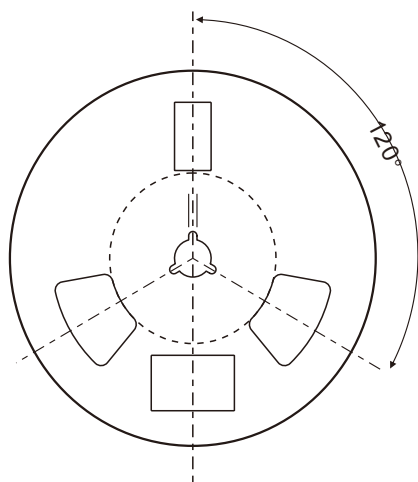
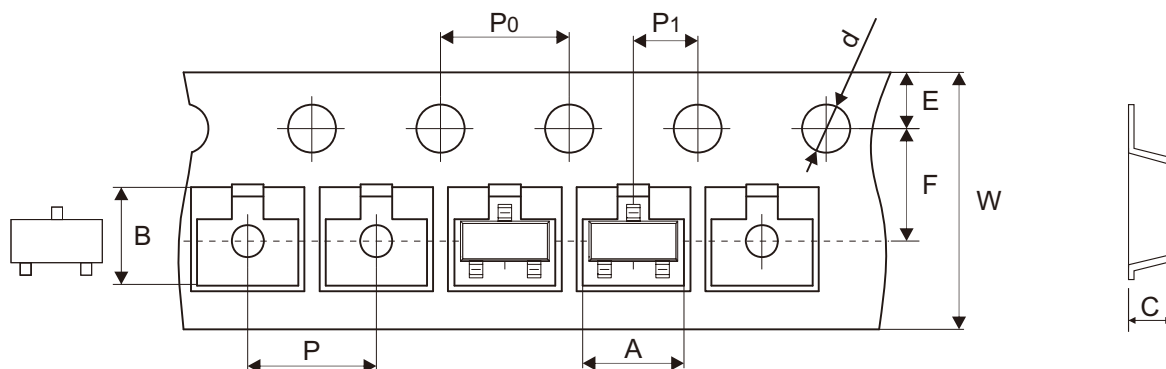
Fig.5 - h_{FE} — I_c



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

REV:A

Reel Taping Specification



SOT-23	SYMBOL	A	B	C	d	D	D ₁	D ₂
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 + 0.10 - 0.00	178.00 ± 1.00	54.60 ± 1.00	13.30 ± 1.00
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 + 0.004 - 0.000	7.008 ± 0.039	2.150 ± 0.039	0.524 ± 0.039

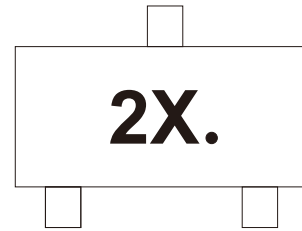
SOT-23	SYMBOL	E	F	P	P ₀	P ₁	W	W ₁
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	8.00 + 0.30 - 0.10	11.10 ± 0.20
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.315 + 0.012 - 0.004	0.437 ± 0.008

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

REV:A

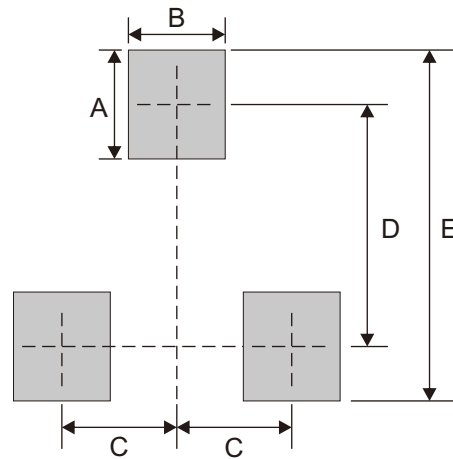
Marking Code

Part Number	Marking Code
AMMBT4401-HF	2X.



Suggested P.C.B. PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.90	0.035
B	0.80	0.031
C	0.95	0.037
D	2.00	0.079
E	2.90	0.114



Note: 1. The pad layout is for reference purposes only.

Standard Packaging

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