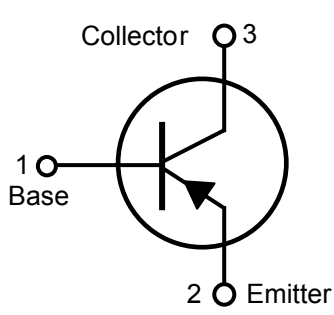
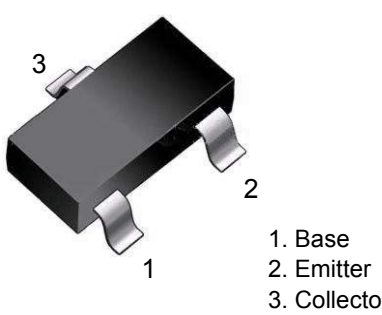


PNP型 小功率 贴片开关三极管 PNP Switching Transistor SMD	
■ Excellent hFE linearity ■ Low noise ■ Transistor Polarity: PNP ■ Transistor pinout: BEC ■ SOT-23 Package ■ Marking Code: 2T ■ hFE: 100~200, 200~300	MMBT4403 对应其他工业型号 4403

Inner circuit  SOT-23 内部结构	MMBT4403  SOT-23 管脚排列	元件标识 (打印)  DEVICE MARKING
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■ CLASSIFICATION OF hFE

RANK	L	H
RANGE	100~200	200~300

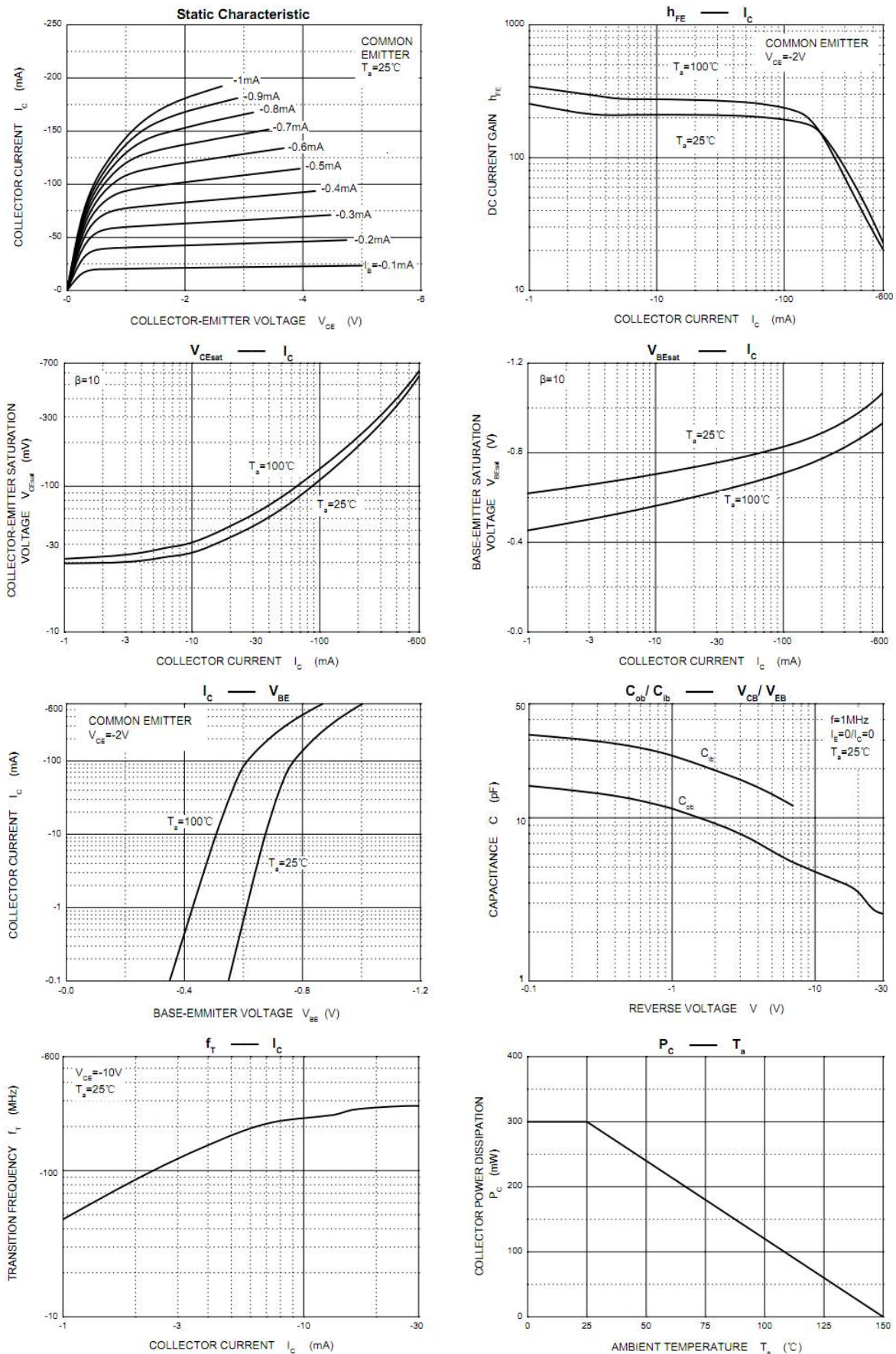
■ MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-600	mA
P_C	Collector Power Dissipation	-300	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	-417	°C/W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

■ ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

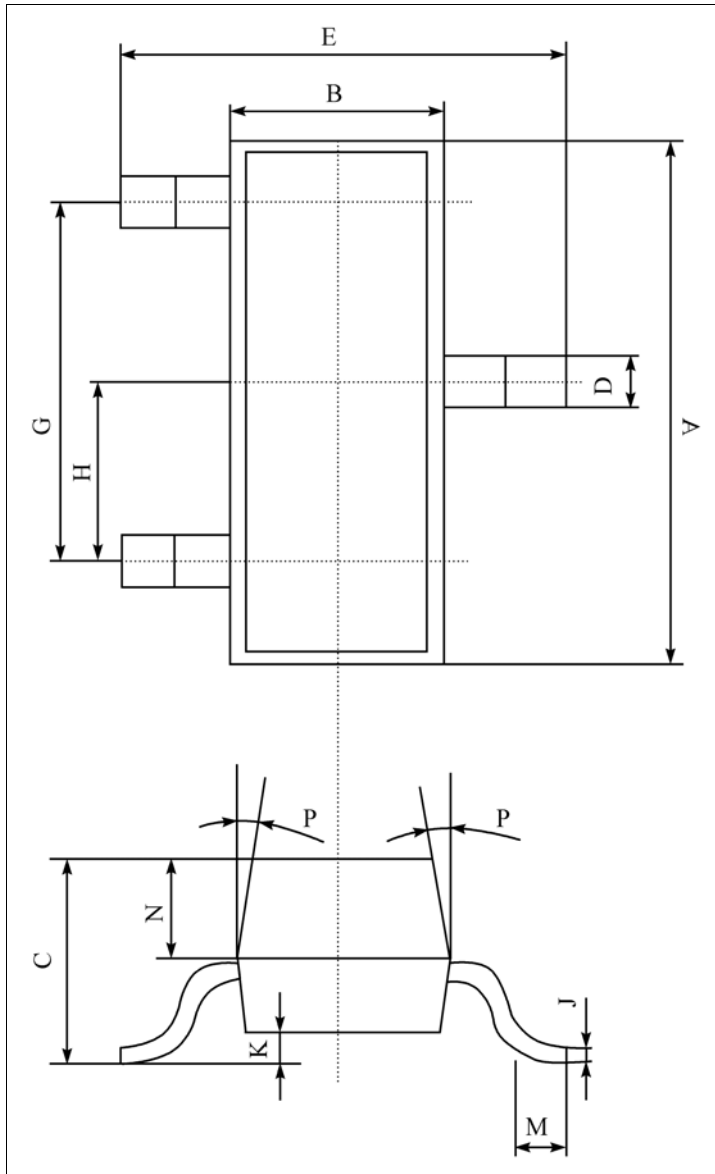
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\text{ }\mu\text{A}, I_E=0$	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}, I_B=0$	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\text{ }\mu\text{A}, I_C=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB}=-35\text{V}, I_E=0$			-0.1	μA
Collector cut-off current	I_{CEX}	$V_{CE}=-35\text{V}, V_{BE}=0.4\text{V}$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-4\text{V}, I_C=0$			-0.1	μA
DC current gain	h_{FE1}	$V_{CE}=-1\text{V}, I_C=-0.1\text{mA}$	30			
	h_{FE2}	$V_{CE}=-1\text{V}, I_C=-1\text{mA}$	60			
	h_{FE3}	$V_{CE}=-1\text{V}, I_C=-10\text{mA}$	100			
	h_{FE4}	$V_{CE}=-2\text{V}, I_C=-150\text{mA}$	100		300	
	h_{FE5}	$V_{CE}=-2\text{V}, I_C=-500\text{mA}$	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-150\text{mA}, I_B=-15\text{mA}$			-0.4	V
		$I_C=-500\text{mA}, I_B=-50\text{mA}$			-0.75	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-150\text{mA}, I_B=-15\text{mA}$			-0.95	V
		$I_C=-500\text{mA}, I_B=-50\text{mA}$			-1.3	V
Transition frequency	f_T	$V_{CE}=-10\text{V}, I_C=-20\text{mA}, f=100\text{MHz}$	200			MHz
Delay time	t_d	$V_{CC}=-30\text{V}, V_{BE(off)}=-0.5\text{V}$			15	ns
Rise time	t_r	$I_C=-150\text{mA}, I_{B1}=-15\text{mA}$			20	ns
Storage time	t_s	$V_{CC}=-30\text{V}, I_C=-150\text{mA}$			225	ns
Fall time	t_f	$I_{B1}=I_{B2}=-15\text{mA}$			60	ns

TYPICAL CHARACTERISTICS



■ DIMENSION

单位 (UNIT) : mm



序号	数值及公差
A	2.90±0.10
B	1.30±0.10
C	1.00±0.10
D	0.40±0.10
E	2.40±0.20
G	1.90±0.10
H	0.95±0.05
J	0.13±0.05
K	0.00-0.10
M	≥0.20
N	0.60±0.10
P	7±2°

Packing

SOT-23 包装规格

SMD片式表面贴封装

包装方式: 载带卷盘包装

Tape & Reel, 3Kpcs/Reel

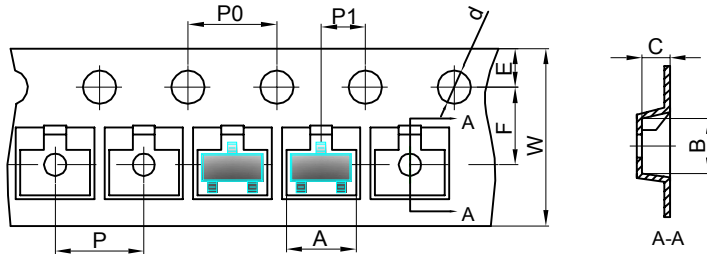
每卷数量3000只 (3Kpcs/Reel)

每盒数量45000只 (45Kpcs/BOX)

每箱数量180000只 (180Kpcs/Cartons)

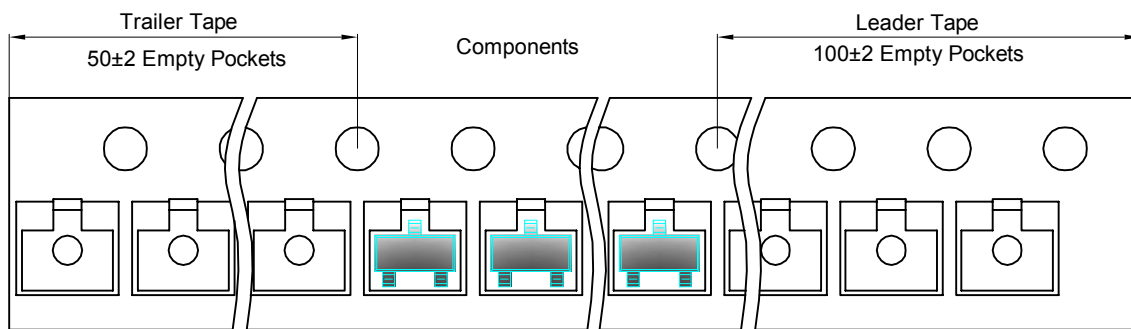
SOT-23 Tape and reel

SOT-23 Embossed Carrier Tape

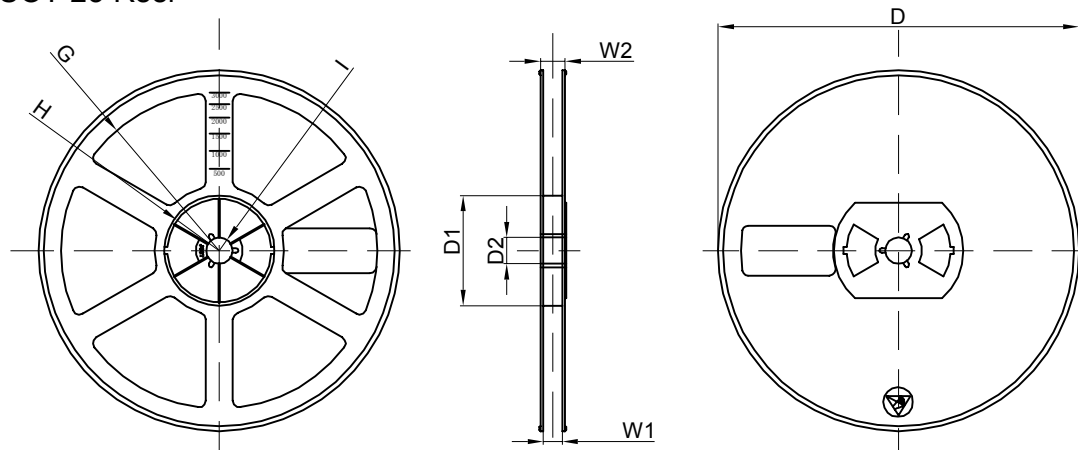


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer



SOT-23 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	192×192×193	180,000 pcs	404×404×214	