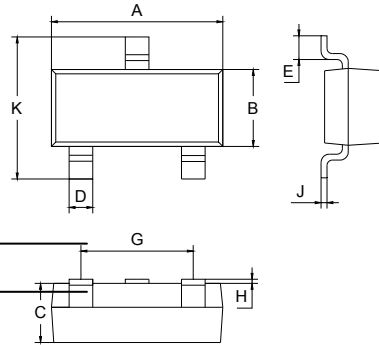
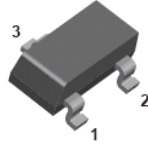




### FEATURES

- NPN Silicon Planar.
- Switching Transistor.



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	1.0 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.1 Typical	
K	2.20	2.60
All Dimensions in mm		

### ORDERING INFORMATION

Type No.	Marking	Package Code
FMMT4124	ZC	SOT-23

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage	30	V
V <sub>CEO</sub>	Collector-Emitter Voltage	25	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current -Continuous	0.2	A
P <sub>C</sub>	Collector Dissipation	330	mW
T <sub>j</sub> , T <sub>stg</sub>	Junction and Storage Temperature	-55 to +150	°C

### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =10μA, I <sub>E</sub> =0	30			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, I <sub>B</sub> =0	25			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0	5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =20V, I <sub>E</sub> =0			50	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =3V, I <sub>C</sub> =0			50	nA
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =2mA	120		360	
		V <sub>CE</sub> =1V, I <sub>C</sub> =50mA	60			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> = 5mA			0.3	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> = 5mA			0.95	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =20V, I <sub>C</sub> = 10mA f=100MHz	300			MHz
Output capacitance	C <sub>obo</sub>	V <sub>CB</sub> =5V, I <sub>E</sub> =0 f=140MHz			4	pF
Input capacitance	C <sub>ibo</sub>	V <sub>BE</sub> =0.5V, I <sub>E</sub> =0 f=140MHz			8	pF
Noise figure	N	I <sub>C</sub> =200 μ A, V <sub>CE</sub> =5V, R <sub>g</sub> =2kΩ			6	dB
Small Signal Current Transfer	h <sub>fe</sub>	I <sub>C</sub> =2mA, V <sub>CE</sub> =1V, f=1KHz	120	480		
Delay Time	t <sub>d</sub>	V <sub>CC</sub> =3V, V <sub>BE(off)</sub> =0.5v		24		ns
Rise Time	t <sub>r</sub>	I <sub>C</sub> =10mA, I <sub>B1</sub> =1mA		13		ns
Storage Time	t <sub>s</sub>	V <sub>CC</sub> =3V,		125		ns
Fall Time	t <sub>f</sub>	I <sub>C</sub> =10mA, I <sub>B1</sub> = I <sub>B2</sub> =1mA		11		ns



### TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

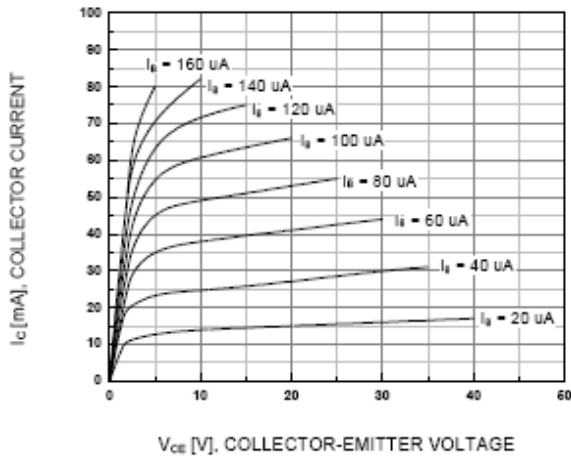


Figure 1. Static Characteristic

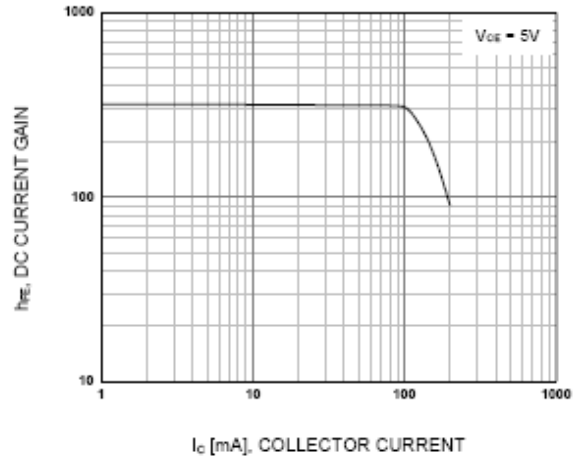


Figure 2. DC current Gain

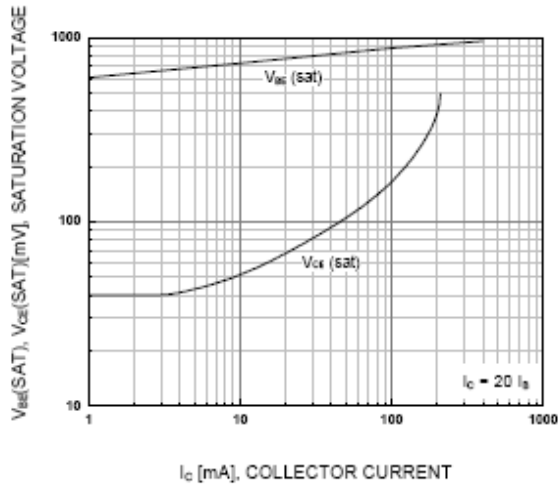


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

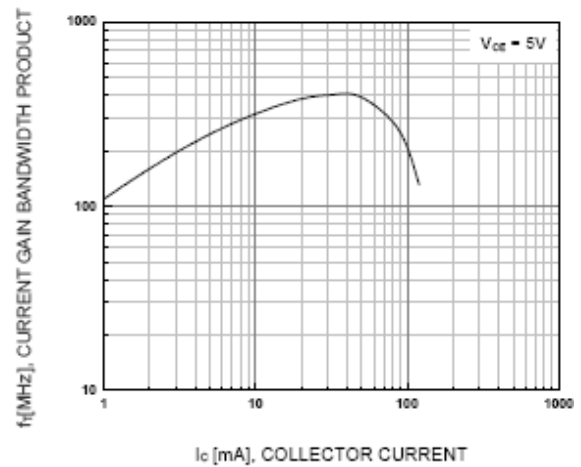


Figure 4. Current Gain Bandwidth Product

Package	Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
SOT-23	3000pcs	7inch	45,000pcs	203×203×195	180,000pcs	438×438×220