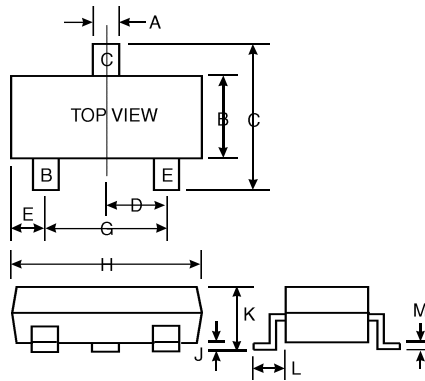


### Features

Epitaxial Planar Die Construction  
Complementary PNP Type Available (MMBT4126)  
Ideal for Medium Power Amplification and Switching

### Mechanical Data

Case: SOT-23, Molded Plastic  
Terminals: Solderable per MIL-STD-202, Method 208  
Terminal Connections: See Diagram  
Marking: K1B  
Weight: 0.008 grams (approx.)



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.19	1.40
C	2.10	2.50
D	0.89	1.05
E	0.45	0.61
G	1.78	2.05
H	2.65	3.05
J	0.013	0.15
K	0.89	1.10
L	0.45	0.61
M	0.076	0.178
All Dimensions in mm		

### Maximum Ratings @ $T_A = 25\text{ C}$ unless otherwise specified

Characteristic	Symbol	MMBT4124	Unit
Collector-Base Voltage	$V_{CBO}$	30	V
Collector-Emitter Voltage	$V_{CEO}$	25	V
Emitter-Base Voltage	$V_{EBO}$	5.0	V
Collector Current - Continuous (Note 1)	$I_C$	200	mA
Power Dissipation (Note 1)	$P_d$	350	mW
Thermal Resistance, Junction to Ambient (Note 1)	$R_{JA}$	357	K/W
Operating and Storage and Temperature Range	$T_j, T_{STG}$	-55 to +150	C

Notes: 1. Valid provided that terminals are kept at ambient temperature.  
2. Pulse test: Pulse width 300  $\mu$ s, duty cycle 2%.

## Electrical Characteristics @ $T_A = 25\text{ C}$ unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 2)					
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	30		V	$I_C = 10\text{ A}, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	25		V	$I_C = 1.0\text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5.0		V	$I_E = 10\text{ A}, I_C = 0$
Collector Cutoff Current	$I_{CBO}$		50	nA	$V_{CB} = 20\text{V}, I_E = 0\text{V}$
Emitter Cutoff Current	$I_{EBO}$		50	nA	$V_{EB} = 3.0\text{V}, I_C = 0\text{V}$
ON CHARACTERISTICS (Note 2)					
DC Current Gain	$h_{FE}$	120 60	360		$I_C = 2.0\text{mA}, V_{CE} = 1.0\text{V}$ $I_C = 50\text{mA}, V_{CE} = 1.0\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$		0.30	V	$I_C = 50\text{mA}, I_B = 5.0\text{mA}$
Base- Emitter Saturation Voltage	$V_{BE(SAT)}$		0.95	V	$I_C = 50\text{mA}, I_B = 5.0\text{mA}$
SMALL SIGNAL CHARACTERISTICS					
Output Capacitance	$C_{obo}$		4.0	pF	$V_{CB} = 5.0\text{V}, f = 1.0\text{MHz}, I_E = 0$
Input Capacitance	$C_{ibo}$		8.0	pF	$V_{EB} = 0.5\text{V}, f = 1.0\text{MHz}, I_C = 0$
Small Signal Current Gain	$h_{fe}$	120	480		$V_{CE} = 1.0\text{V}, I_C = 2.0\text{mA},$ $f = 1.0\text{kHz}$
Current Gain-Bandwidth Product	$f_T$	300		MHz	$V_{CE} = 20\text{V}, I_C = 10\text{mA},$ $f = 100\text{MHz}$

Notes: 1. Valid provided that terminals are kept at ambient temperature.