



<u>MMBT4126</u>

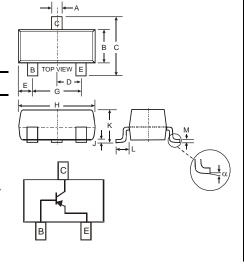
PNP SMALL SIGNAL SURFACE MOUNT TRANSISTOR

Features

- Epitaxial Planar Die Construction
- Complementary NPN Type Available (MMBT4124)
- Ideal for Low Power Amplification and Switching
- Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 2 and 4)

Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminal Connections: See Diagram
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Marking (See Page 3): K2B
- Ordering & Date Code Information: See Page 3
- Weight: 0.008 grams (approximate)



SOT-23											
Dim	Dim Min Max										
Α	0.37	0.51									
в	1.20	1.40									
С	2.30	2.50									
D	0.89	1.03									
ш	0.45	0.60									
G	1.78	2.05									
н	2.80	3.00									
J	0.013	0.10									
к	0.903	1.10									
L	0.45	0.61									
М	0.085	0.180									
α	0°	8°									
All Din	nensions	in mm									

Maximum Ratings $@T_A = 25^{\circ}C$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	-25	V
Collector-Emitter Voltage	V _{CEO}	-25	V
Emitter-Base Voltage	V _{EBO}	-4.0	V
Collector Current - Continuous (Note 1)	Ic	-200	mA
Power Dissipation (Note 1)	PD	300	mW
Thermal Resistance, Junction to Ambient (Note 1)	$R_{ heta JA}$	417	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Electrical Characteristics $@T_A = 25^{\circ}C$ unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 3)			1	1	
Collector-Base Breakdown Voltage	V _{(BR)CBO}	-25		V	$I_{\rm C} = -10 \mu A$, $I_{\rm E} = 0$
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	-25		V	$I_{\rm C} = -1.0 {\rm mA}, I_{\rm B} = 0$
Emitter-Base Breakdown Voltage	V _{(BR)EBO}			V	$I_{E} = -10\mu A, I_{C} = 0$
Collector Cutoff Current	I _{CBO}	_	-50	nA	$V_{CB} = -20V, I_E = 0V$
Emitter Cutoff Current	I _{EBO}	_	-50	nA	$V_{EB} = -3.0V, I_{C} = 0V$
ON CHARACTERISTICS (Note 3)			•		
DC Current Gain	h	120	360		$I_{C} = -2.0 \text{mA}, V_{CE} = -1.0 \text{V}$
	h _{FE}	60	_		$I_{C} = -50 \text{mA}, V_{CE} = -1.0 \text{V}$
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	_	-0.40	V	$I_{C} = -50 \text{mA}, I_{B} = -5.0 \text{mA}$
Base-Emitter Saturation Voltage	VBE(SAT)	_	-0.95	V	$I_{C} = -50 \text{mA}, I_{B} = -5.0 \text{mA}$
SMALL SIGNAL CHARACTERISTICS					
Output Capacitance	Cobo	—	4.5	pF	$V_{CB} = -5.0V, f = 1.0MHz, I_E = 0$
Input Capacitance	Cibo	_	10	pF	$V_{EB} = -0.5V, f = 1.0MHz, I_{C} = 0$
Small Signal Current Gain	h _{fe}	120	480	_	$V_{CE} = 1.0V, I_C = -2.0mA, f = 1.0kHz$
Current Gain-Bandwidth Product	f _T	250	_	MHz	$V_{CE} = -20V, I_C = -10mA,$ f = 100MHz
Noise Figure	NF		4.0	dB	V_{CE} = -5.0V, I _C = -100µA, R _S = 1.0kΩ, f = 1.0kHz

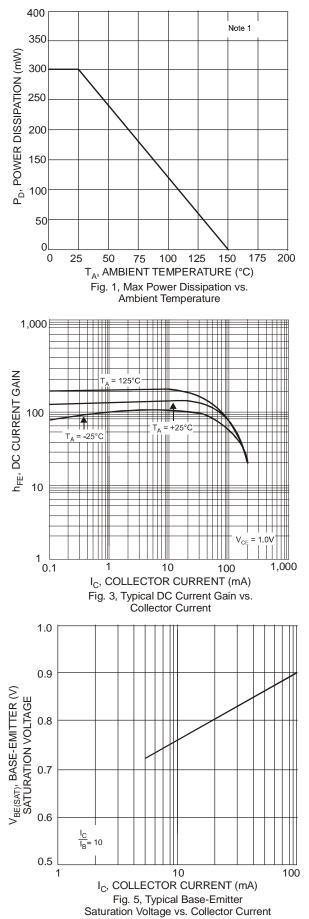
Notes: 1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.

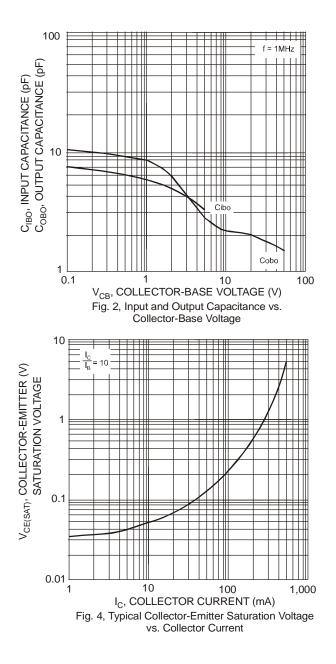
2. No purposefully added lead. Halogen and Antimony Free.

3. Short duration pulse test used to minimize self-heating effect.

 Product manufactured with Data Code V9 (week 33, 2008) and newer are built with Green Molding Compound. Product manufactured prior to Date Code V9 are built with Non-Green Molding Compound and may contain Halogens or Sb₂O₃ Fire Retardants.







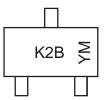


Ordering Information (Note 5)

Y		
Device	Packaging	Shipping
MMBT4126-7-F	SOT-23	3000/Tape & Reel

Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



K2B = Product Type Marking Code YM = Date Code Marking Y = Year ex: N = 2002 M = Month ex: 9 = September

Date Code Key

ĺ	Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	Code	J	К	L	М	Ν	Р	R	s	Т	U	V	W	Х	Y	Z

Γ	Month	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Code	1	2	3	4	5	6	7	8	9	0	Ν	D

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