MMBT4126

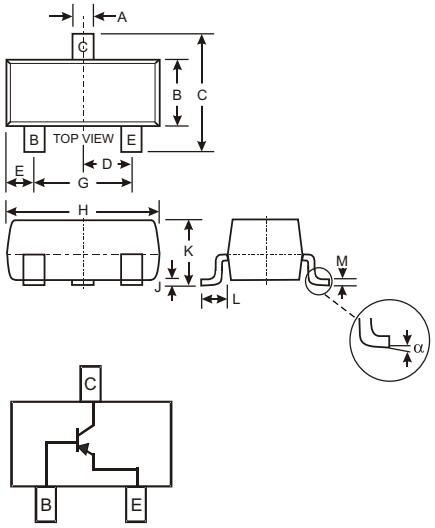
PNP SMALL SIGNAL SURFACE MOUNT TRANSISTOR

Features

- Epitaxial Planar Die Construction
- Complementary NPN Type Available (MMBT4124)
- Ideal for Low Power Amplification and Switching
- **Lead Free/RoHS Compliant (Note 2)**

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 2): K2B
- Ordering & Date Code Information: See Page 2
- Weight: 0.008 grams (approximate)



SOT-23		
Dim	**Min**	**Max**
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
	0	8
All Dimensions in mm		

Maximum Ratings @ T_A = 25 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)	I_C	-200	mA
Power Dissipation (Note 1)	P_d	300	mW
Thermal Resistance, Junction to Ambient (Note 1)	R_{JA}	417	C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150	C

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.

Electrical Characteristics @ T_A = 25 C unless otherwise specified

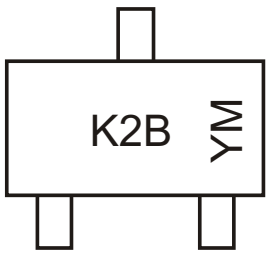
Characteristic	Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 3)					
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-25		V	I_C = -10 A, I_E = 0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-25		V	I_C = -1.0mA, I_B = 0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-4.0		V	I_E = -10 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_{FE}	120 60	360		I_C = -2.0mA, V_{CE} = -1.0V I_C = -50mA, V_{CE} = -1.0V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$		-0.40	V	I_C = -50mA, I_B = -5.0mA
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$		-0.95	V	I_C = -50mA, I_B = -5.0mA
SMALL SIGNAL CHARACTERISTICS					
Output Capacitance	C_{obo}		4.5	pF	V_{CB} = -5.0V, f = 1.0MHz, I_E = 0
Input Capacitance	C_{ibo}		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 = -100 A, R_S = 1.0k f = 1.0kHz

Ordering Information (Note 4)

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

Note: 3. Short duration pulse test used to minimize self-heating effect.
4. 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

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	J	K	L	M	N	P	R	S	T	U	V	W	X	Y	Z

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

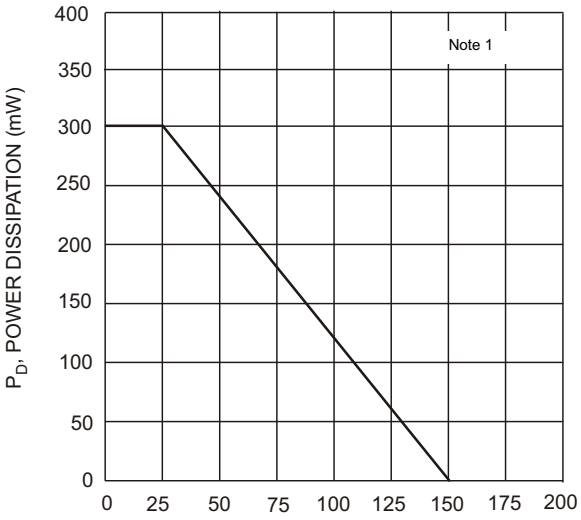


Fig. 1, Max Power Dissipation vs Ambient Temperature

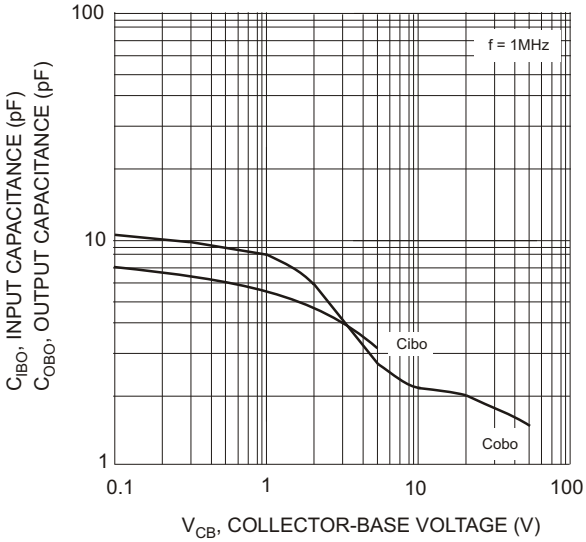


Fig. 2, Input and Output Capacitance vs. Collector-Base Voltage

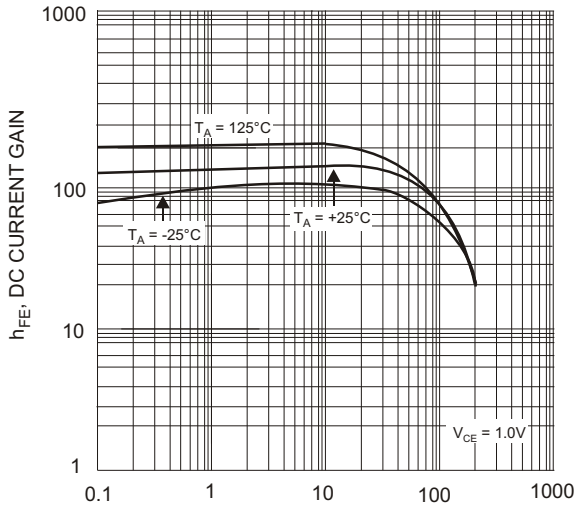


Fig. 3, Typical DC Current Gain vs Collector Current

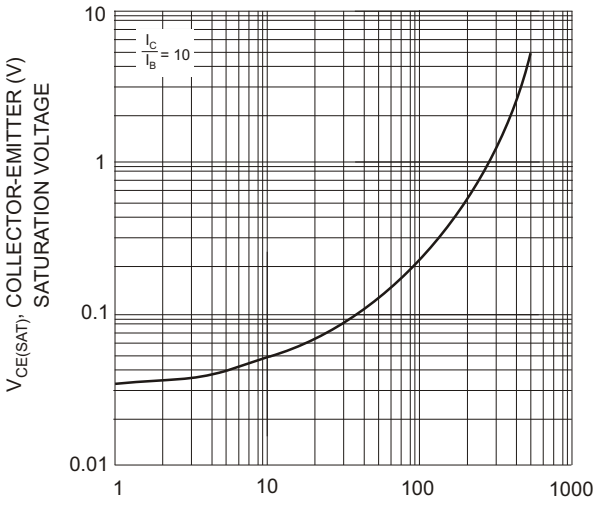


Fig. 4, Typical Collector-Emitter Saturation Voltage vs. Collector Current

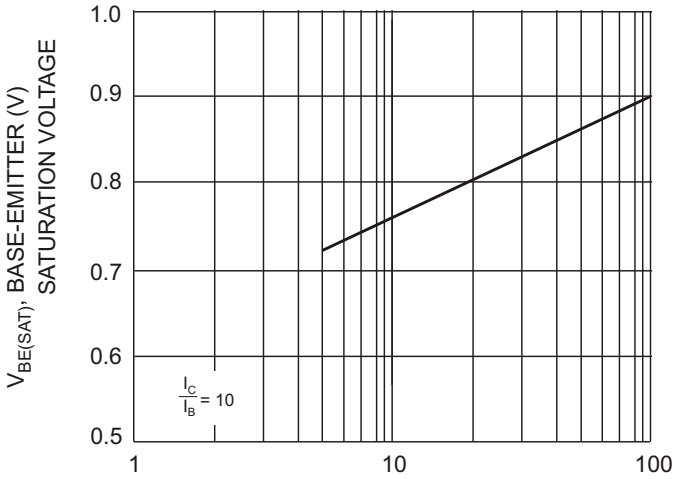


Fig. 5, Typical Base-Emitter Saturation Voltage vs. Collector Current

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