



MMDT4126

DUAL PNP SMALL SIGNAL SURFACE MOUNT TRANSISTOR

Features

- **Epitaxial Planar Die Construction**
- Complementary NPN Type Available (MMDT4124)
- Ideal for Medium Power Amplification and Switching
- Ultra-Small Surface Mount Package
- Lead Free/RoHS Compliant (Note 3)
- "Green" Device (Note 4 and 5)

Mechanical Data

- Case: SOT-363
- Case Material: Molded Plastic. UL Flammability • Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Terminal Connections: See Diagram
- Marking Information: K2B, See Page 3
- Ordering & Date Code Information: See Page 3
- Weight: 0.006 grams (approximate)

		SOT-363	
	Dim	Min	Max
	Α	0.10	0.30
B C	В	1.15	1.35
	С	2.00	2.20
└┯┘└─┘└┯┘ <u>┈</u> ╎ <── G ──→	D	0.65 N	ominal
⊢−−−− H −−−→	F	0.30	0.40
	н	1.80	2.20
	J		0.10
	к	0.90	1.00
$ \begin{array}{c c} j & \leftarrow \rightarrow \leftarrow \rightarrow \\ D & F & L \\ \end{array} $	L	0.25	0.40
$\begin{pmatrix} & & \\ & $	М	0.10	0.25
ţ,	α	0°	8°
	All Din	nensions	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		VCEO	-25	V		
Emitter-Base Voltage		V _{EBO}	-4.0	V		
Collector Current – Continuous	(Note 1)	Ι _C	-200	mA		
Power Dissipation	(Note 1,2)	Pd	200	mW		
Thermal Resistance, Junction to Ambient	(Note 1)	R _{0JA}	625	°C/W		
Operating and Storage Temperature Range		Tj, T _{STG}	-55 to +150	°C		

Notes: 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 1. can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.

2. Maximum combined dissipation.

No purposefully added lead. 3.

4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.

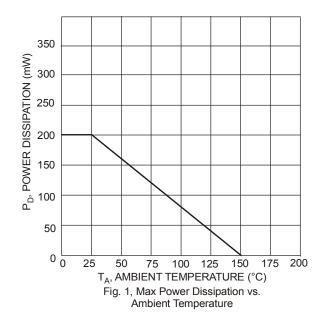
5 Product manufactured with Date Code UO (week 40, 2007) and newer are built with Green Molding Compound. Product manufactured prior to Date Code UO are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.

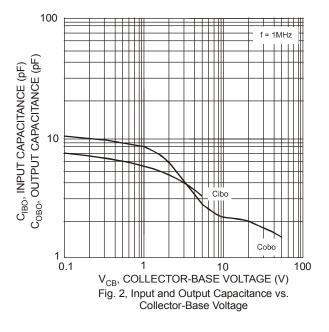


Electrical Characteristics @T_A = 25°C unless otherwise specified

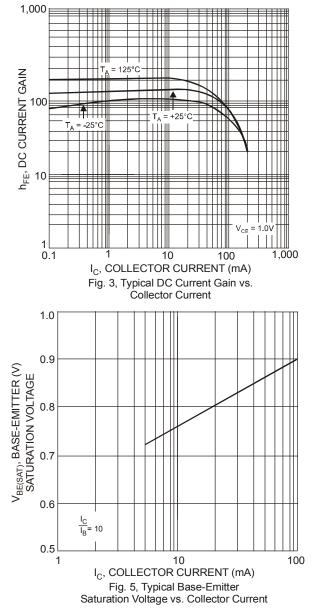
Characteristic	Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 4)					•
Collector-Base Breakdown Voltage	V _{(BR)CBO}	-25		V	$I_{\rm C} = -10 \mu A, I_{\rm E} = 0$
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	-25		V	$I_{\rm C}$ = -1.0mA, $I_{\rm B}$ = 0
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	-4.0	_	V	$I_{\rm E} = -10 \mu A, I_{\rm C} = 0$
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 4)					
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	Cobo	—	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 = -100μA, R _S = 1.0kΩ, f = 1.0kHz

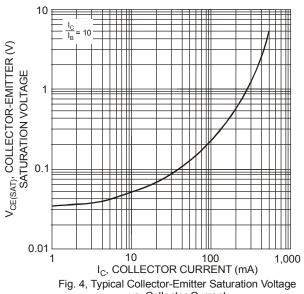
Notes: 4. Short duration pulse test used to minimize self-heating effect.











vs. Collector Current

Ordering Information (Note 5)

Device	Packaging	Shinning
Device	ruokuging	ompping
MMDT4126-7-F	SOT-363	3000/Tape & Reel

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

Marking Information

Marking Informa	ation														
K2B YM K2B YM WA 8ZX MA 8ZX Math 8ZX															
Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	J	Κ	L	М	Ν	Р	R	S	Т	U	V	W	Х	Y	Z
Month	Jan	Fel	b I	Mar	Apr	Мау	Ju	n	Jul	Aug	Sep	Oc	t I	Nov	Dec
Code	1	2		3	4	5	6		7	8	9	0		Ν	D



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