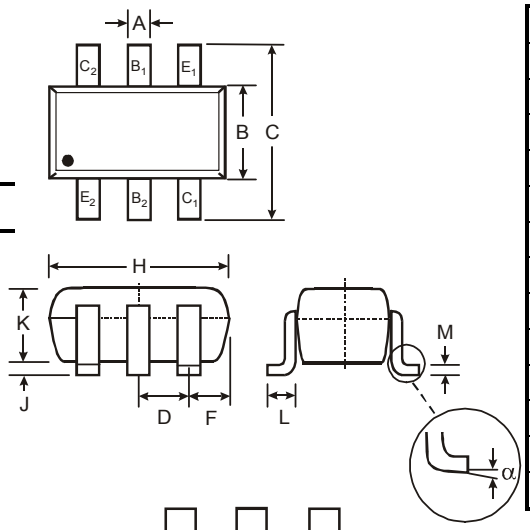
NEW PRODUCT

MIMD10A

DUAL PRE-BIASED TRANSISTORS FOR POWER MANAGEMENT

Features

- Epitaxial Planar Die Construction
- Built-In Biasing Resistors
- One 500mA PNP and One 100mA NPN
- **Lead Free/RoHS Compliant (Note 1)**
- **"Green" Device (Note 3 and 4)**

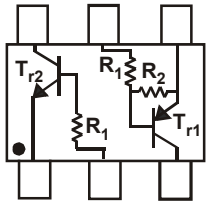


SOT-363		
Dim	**Min**	**Max**
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
F	0.30	0.40
H	1.80	2.20
J	—	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.25
α	0°	8°
All Dimensions in mm		

Mechanical Data

- Case: SOT-363
- Case Material - Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020A
- Terminals: Finish - Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Marking Code: C73 See Page 4
- Ordering & Date Code: See Page 4
- Terminal Connections: See Diagram
- Weight: 0.015 grams (approximate)

P/N		R1	R2
MIMD10A	Tr1	0.1K	10K
	Tr2	10K	-



SCHEMATIC DIAGRAM

Maximum Ratings PNP Section Tr1 @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	-50	V
Input Voltage	V_{IN}	-5 to +5	V
Output Current	I_O	-500	mA

Maximum Ratings NPN Section Tr2 @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	100	mA

Maximum Ratings - Total @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Value	Unit
Power Dissipation	(Note 2)	P_d	200	mW
Operating and Storage Temperature Range		T_j, T_{STG}	-55 to +150	°C

Notes:
1. No purposefully added lead.
2. Mounted on FR4 PC Board with recommended pad layout at http://www.diodes.com/datasheets/ap02001.pdf.
3. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
4. 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.

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NEW PRODUCT

Electrical Characteristics PNP Section Tr1 @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Input Voltage	$V_{I(off)}$	-0.3	—	—	V	V_{CC} = -5V, I_O = -100μA
	$V_{I(on)}$	—	—	-1.5		V_O = 0.3, I_O = -100mA
Output Voltage	$V_{O(on)}$	—	-0.1	-0.3	V	I_O = -100mA/-5mA
Input Current	I_I	—	—	-25	mA	V_I = -2V
Output Current	$I_{O(off)}$	—	—	-0.5	μA	V_{CC} = -50V, V_I = 0V
DC Current Gain	G_I	68	—	—	—	—
Gain-Bandwidth Product*	f_T	—	200	—	MHz	V_{CE} = -10V, I_E = -50mA, f = 100MHz

* Transistor - For Reference Only

Electrical Characteristics NPN Section Tr2 @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	BV_{CBO}	50	—	—	V	I_C = 50μA
Collector-Emitter Breakdown Voltage	BV_{CEO}	50	—	—	V	I_C = 1mA
Emitter-Base Breakdown Voltage	BV_{EBO}	5	—	—	V	I_E = 50μA
Collector Cutoff Current	I_{CBO}	—	—	0.5	μA	V_{CB} = 50V
Emitter Cutoff Current	I_{EBO}	—	—	0.5	μA	V_{EB} = 4V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	—	—	0.3	V	I_C/I_B = 10mA / 1.0mA
DC Current Transfer Ratio	h_{FE}	100	250	600	—	I_C = 1mA, V_{CE} = 5V
Gain-Bandwidth Product*	f_T	—	250	—	MHz	V_{CE} = 10V, I_E = -5mA, f = 100MHz

* Transistor - For Reference Only

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Typical Curves – Tr2

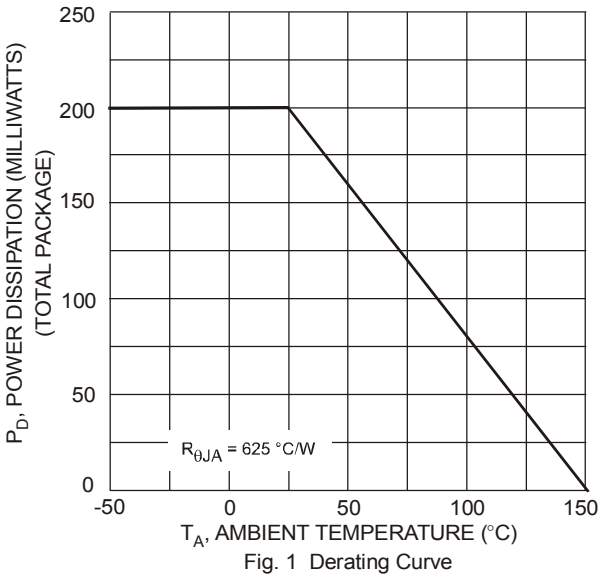

Fig. 1 Derating Curve

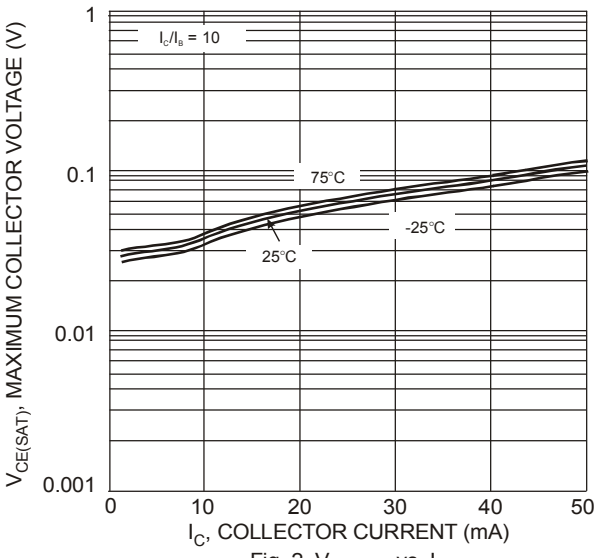

Fig. 2 $V_{CE(SAT)}$ vs. I_C

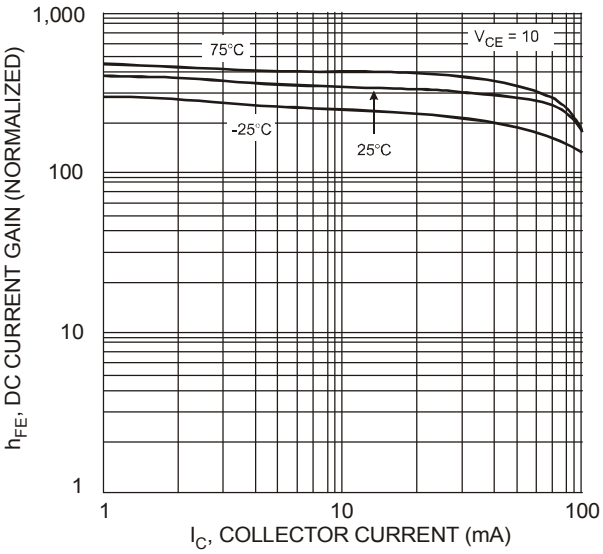

Fig. 3 DC Current Gain

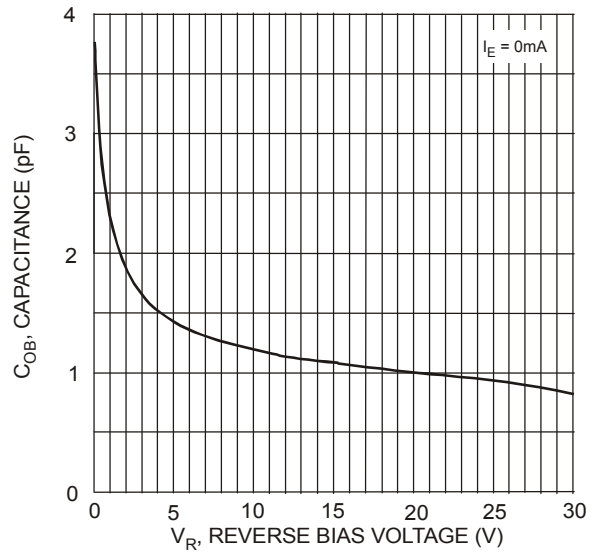

Fig. 4 Output Capacitance

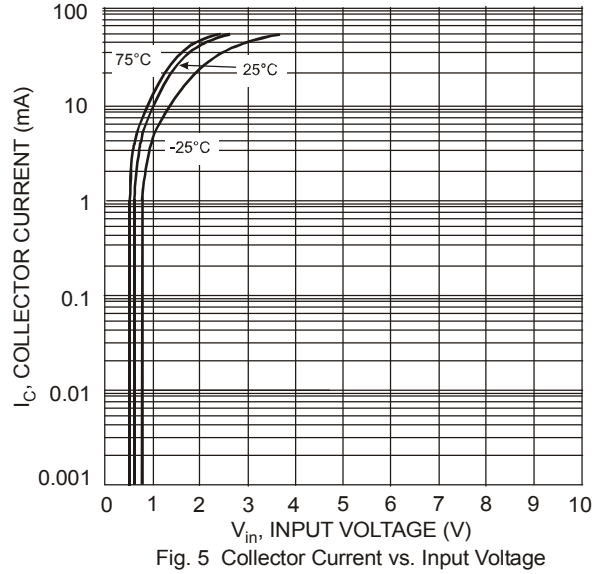

Fig. 5 Collector Current vs. Input Voltage

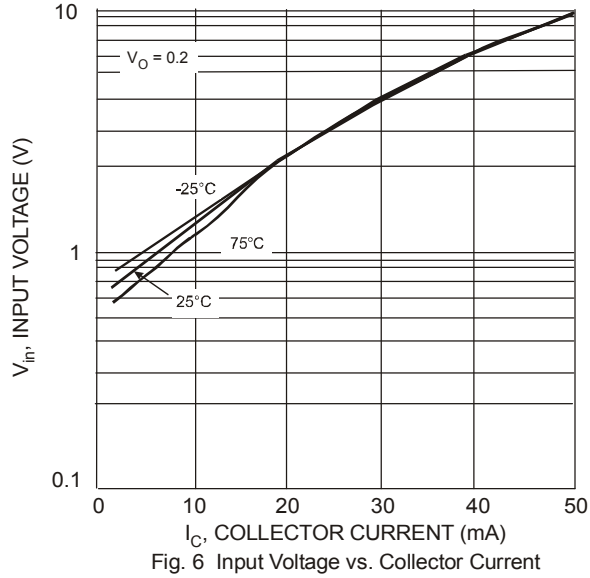

Fig. 6 Input Voltage vs. Collector Current

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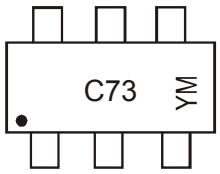
Ordering Information (Note 5)

Device	Packaging	Shipping
MIMD10A-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



C73 = Product Type Marking Code
YM = Date Code Marking
Y = Year ex: P = 2003
M = Month ex: 9 = September

Date Code Key

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	P	R	S	T	U	V	W	X	Y	Z

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

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- *Защиту от снятия компонента с производства.*
- *Оценку стоимости проекта по компонентам.*
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