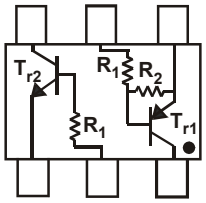
Features

- Epitaxial Planar Die Construction
- Built-In Biasing Resistors
- One 500mA PNP and One 100mA NPN
- **Lead Free/RoHS Compliant (Note 1)**
- **"Green" Devices (Note 2)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Part Number		R1	R2	Marking
DIMD10A	Tr1	0.1K	10K	C73
	Tr2	10K	-	

Mechanical Data

- Case: SC-74R
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: See Diagram
- Terminals: Finish - Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Table and Page 3
- Ordering Information: See Page 3
- Weight: 0.015 grams (approximate)



Device Schematic

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

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation	P_D	300*	mW
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

* Not to exceed 200mW for either Tr1 or Tr2.

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

Notes: 1. No purposefully added lead.
2. "Green" devices, Halogen and Antimony Free, Diodes Inc's "Green" Policy can be found on our website at http://www.diodes.com

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 (Note 3)	f_T	—	250	—	MHz	V_{CE} = 10V, I_E = -5mA, f = 100MHz

Notes: 3. Transistor - For Reference Only

Typical Curves - Tr2

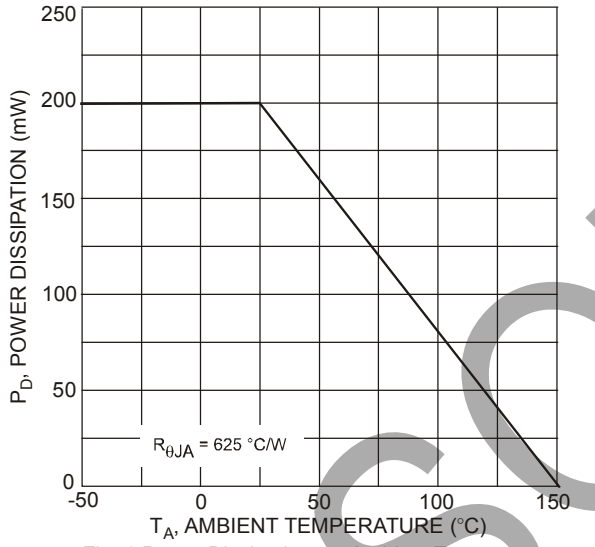


Fig. 1 Power Dissipation vs. Ambient Temperature

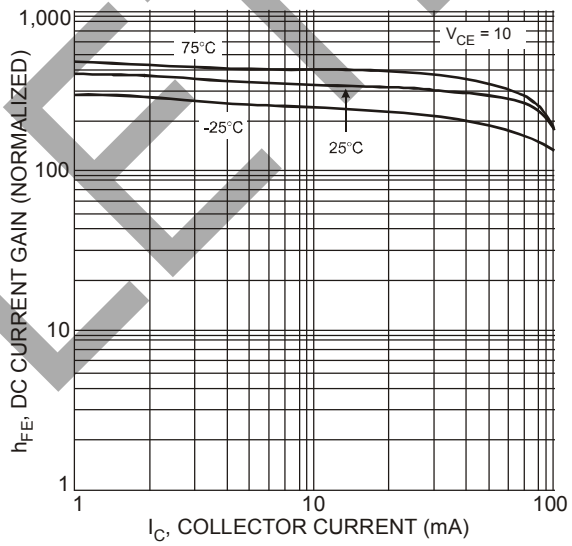


Fig. 2 Typical DC Current Gain vs. Collector Current

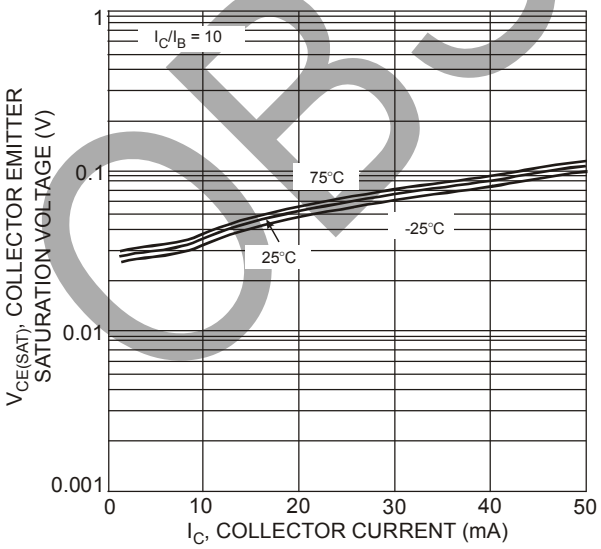


Fig. 3 Typical Collector Emitter Saturation Voltage vs. Collector Current

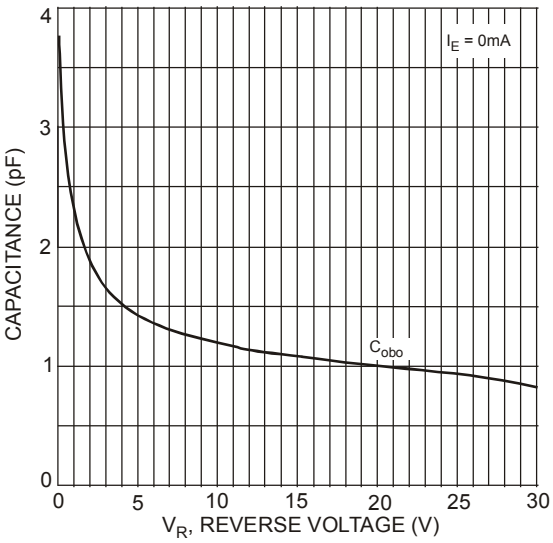


Fig. 4 Typical Capacitance Characteristics

Typical Curves - Tr2 (continued)

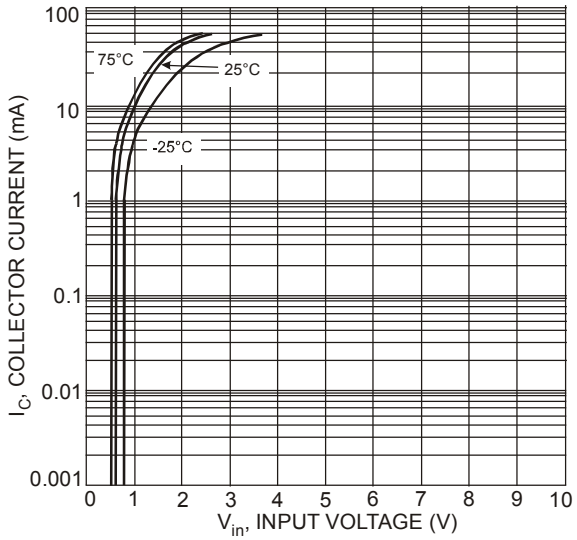


Fig. 5 Collector Current vs. Input Voltage

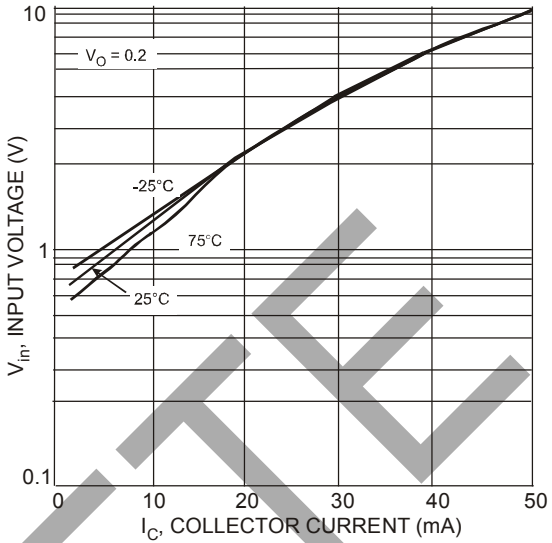


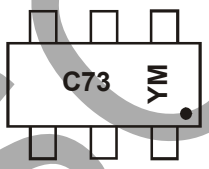
Fig. 6 Input Voltage vs. Collector Current

Ordering Information (Note 4)

Part Number	Case	Packaging
DIMD10A-7	SC-74R	3000/Tape & Reel

Notes: 4. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



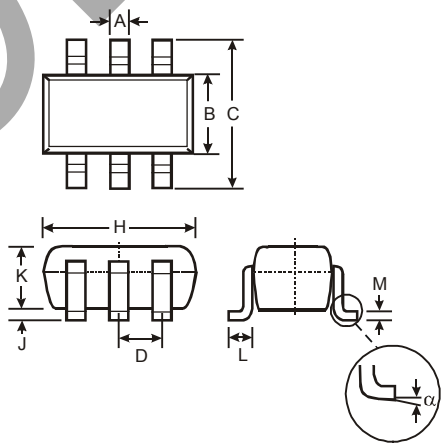
C73 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: S = 2005)
M = Month (ex: 9 = September)

Date Code Key

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	S	T	U	V	W	X	Y	Z	A	B	C

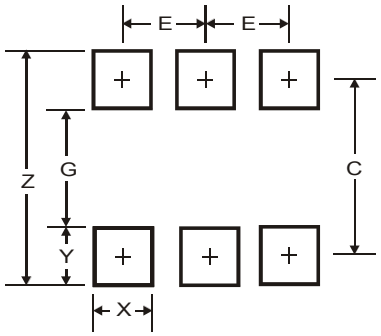
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Package Outline Dimensions



SC-74R			
Dim	Min	Max	Typ
A	0.35	0.50	0.38
B	1.50	1.70	1.60
C	2.70	3.00	2.80
D	—	—	0.95
H	2.90	3.10	3.00
J	0.013	0.10	0.05
K	1.00	1.30	1.10
L	0.35	0.55	0.40
M	0.10	0.20	0.15
α	0°	8°	—
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	3.20
G	1.60
X	0.55
Y	0.80
C	2.40
E	0.95

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