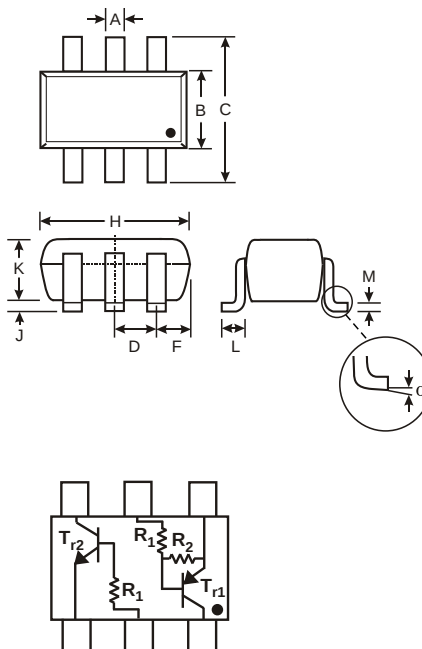


Features

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

Mechanical Data

- Σ Case: SC-74R
- Σ Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Σ Moisture Sensitivity: Level 1 per J-STD-020C
- Σ Terminal Connections: See Diagram
- Σ Terminals: Finish æ Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Σ Marking & Type Code Information: See Last Page
- Σ Ordering Information: See Last Page
- Σ Weight: 0.015 grams (approximate)



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	æ	æ	0.95
F	æ	æ	0.55
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
a	0∞	8∞	æ
All Dimensions in mm			

P/N		R1	R2	Type Code
DIMD10A	Tr1 Tr2	0.1K 10K	10K -	C73

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	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.

Note: 1. No purposefully added lead.

Electrical Characteristics PNP Section Tr1 @ $T_A = 25^\circ\text{C}$ unless otherwise specified

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

* Transistor - For Reference Only

Electrical Characteristics NPN Section Tr2 @ $T_A = 25^\circ\text{C}$ unless otherwise specified

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

* Transistor - For Reference Only

TYPICAL CURVES - Tr2

NEW PRODUCT

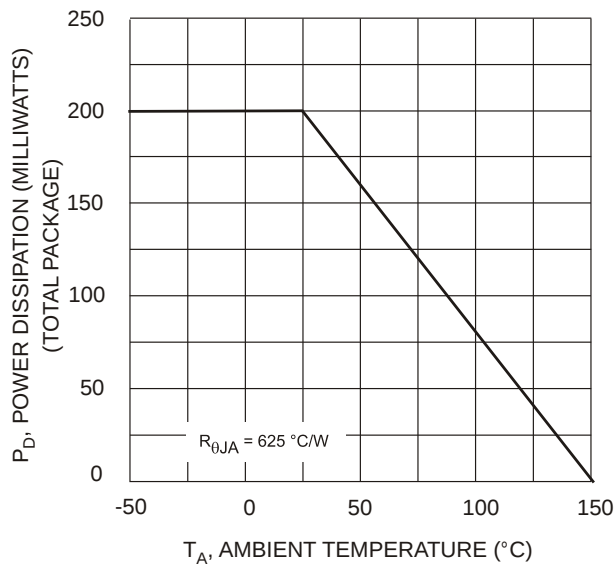


Fig. 1 Derating Curve

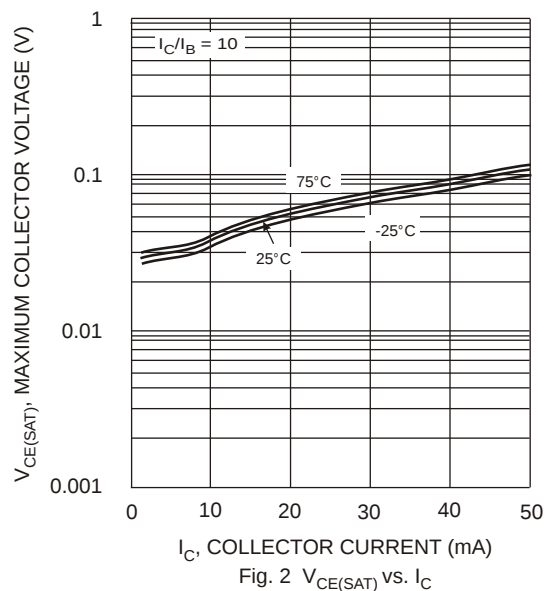


Fig. 2 $V_{CE(SAT)}$ vs. I_C

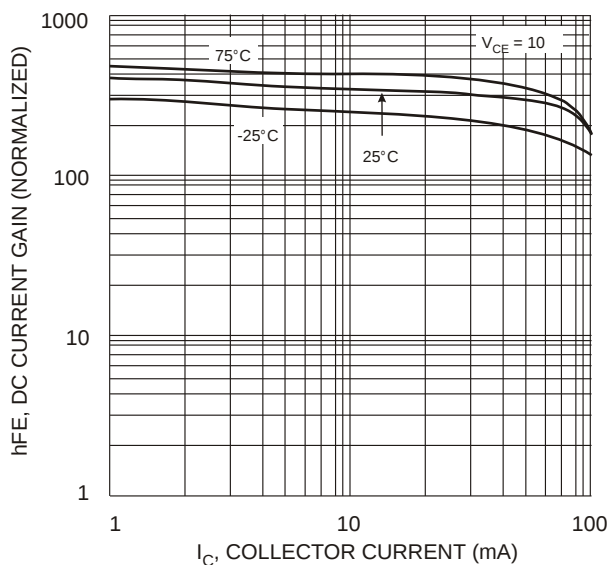


Fig. 3 DC Current Gain

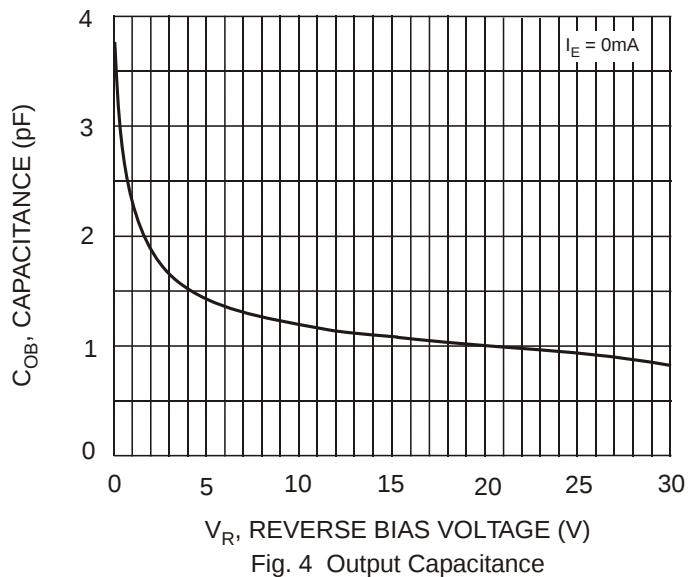


Fig. 4 Output Capacitance

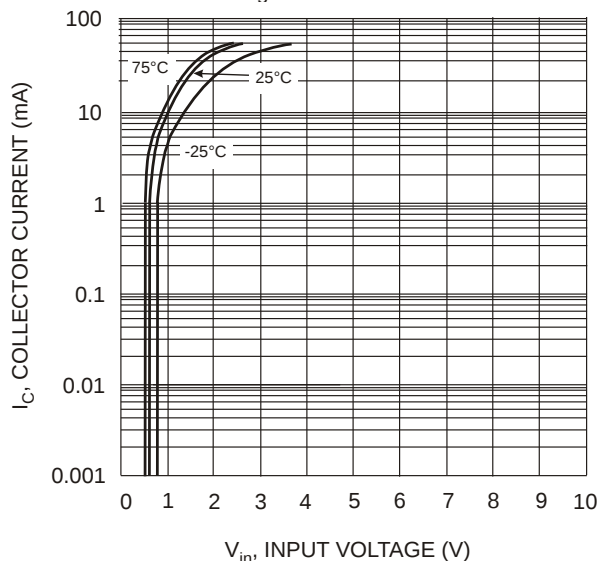


Fig. 5 Collector Current vs. Input Voltage

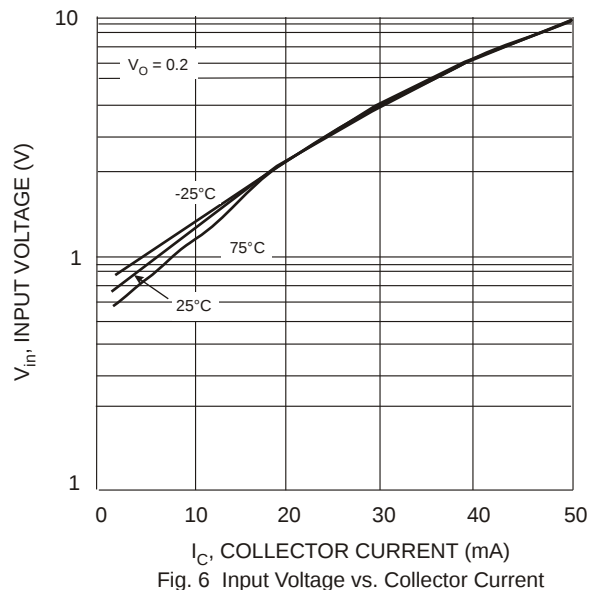


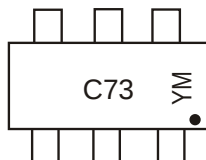
Fig. 6 Input Voltage vs. Collector Current

Ordering Information (Note 2)

Device	Packaging	Shipping
DIMD10A-7	SC-74R	3000/Tape & Reel

Notes: 2. 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
Code	S	T	U	V	W	X	Y

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