

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

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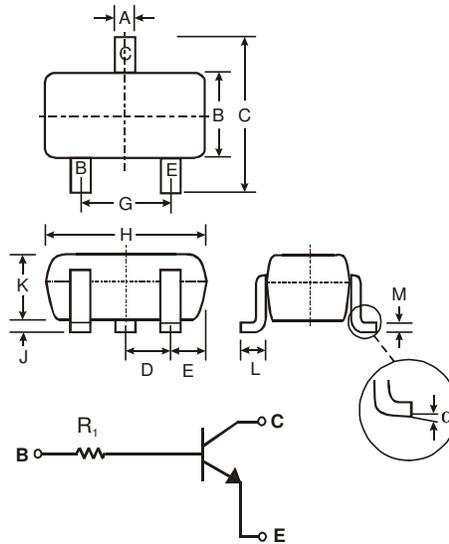
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Features

- Epitaxial Planar Die Construction
- Complementary PNP Types Available (DDTA)
- Built-In Biasing Resistor, R1 only
- **Lead Free/RoHS Compliant (Note 2)**
- **"Green" Device (Note 3 and 4)**

Mechanical Data

- Case: SOT-323
- Case Material: Molded Plastic, "Green" Molding Compound, Note 4. 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 Information: See Diagrams & Page 3
- Type Code: See Table Below
- Ordering Information: See Page 3
- Weight: 0.006 grams (approximate)



SOT-323		
Dim	Min	Max
A	0.25	0.40
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
E	0.30	0.40
G	1.20	1.40
H	1.80	2.20
J	0.0	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.18
α	0°	8°
All Dimensions in mm		

SCHEMATIC DIAGRAM

P/N	R1 (NOM)	Type Code
DDTC113TUA	1K Ω	N01
DDTC123TUA	2.2K Ω	N03
DDTC143TUA	4.7K Ω	N07
DDTC114TUA	10K Ω	N12
DDTC124TUA	22K Ω	N16
DDTC144TUA	47K Ω	N19
DDTC115TUA	100K Ω	N23
DDTC125TUA	200K Ω	N25

Maximum Ratings @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 (Max)	100	mA
Power Dissipation	P _d	200	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	R _{θJA}	833	°C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-55 to +150	°C

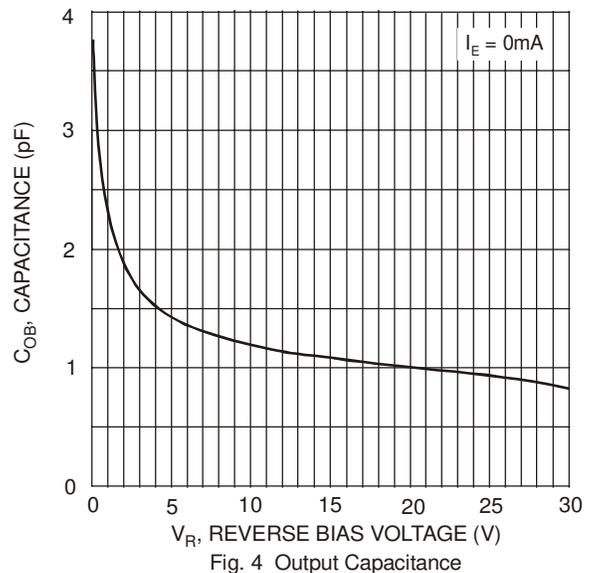
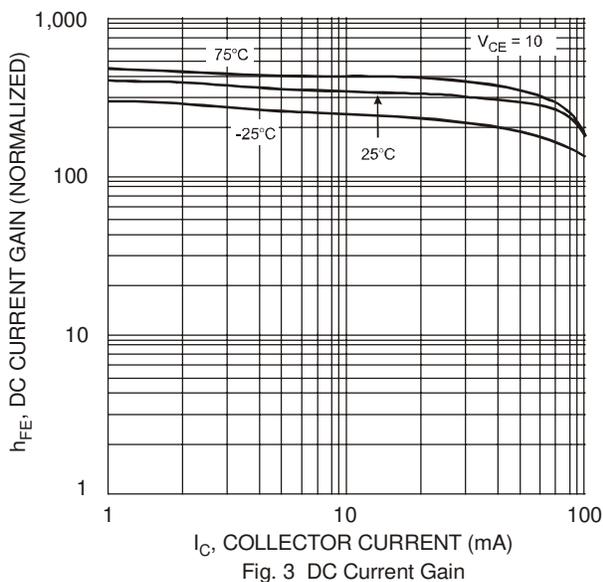
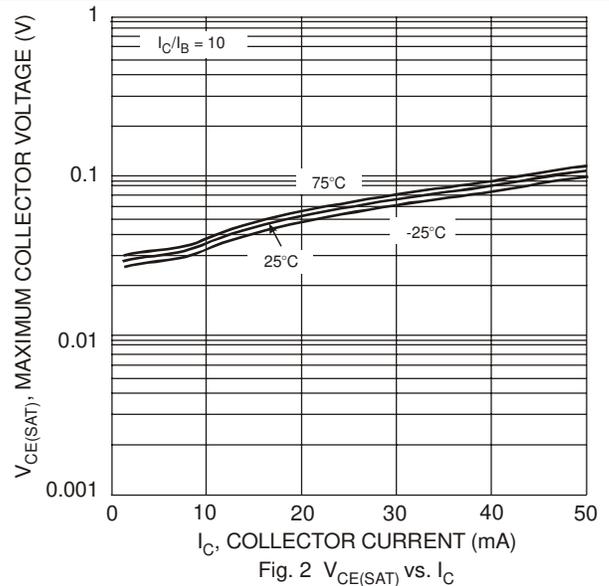
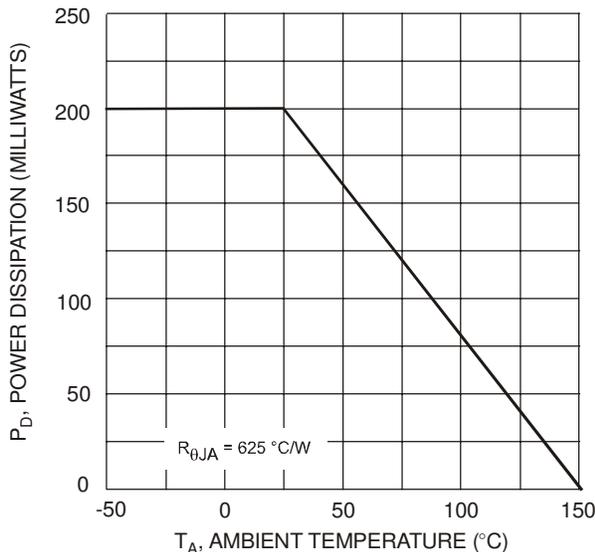
- Notes:
1. Mounted on FR4 PC Board with recommended pad layout as shown on Diodes Inc., suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>
 2. No purposefully added lead.
 3. Diodes Inc.'s "Green" Policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 4. Product manufactured with date code 0627 (week 27, 2006) and newer are built with Green Molding Compound. Product manufactured prior to date code 0627 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	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 _{CB0}	—	—	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/1mA DDTTC113TUA I _C /I _B = 5mA/0.5mA DDTTC123TUA I _C /I _B = 2.5mA/.25mA DDTTC143TUA I _C /I _B = 1mA/.1mA DDTTC114TUA I _C /I _B = 5mA/0.5mA DDTTC124TUA I _C /I _B = 2.5mA/.25mA DDTTC144TUA I _C /I _B = 1mA/0.1mA DDTTC115TUA I _C /I _B = .5mA/.05mA DDTTC125TUA
DC Current Transfer Ratio	h _{FE}	100	250	600	—	I _C = 1mA, V _{CE} = 5V
Input Resistor (R ₁) Tolerance	ΔR ₁	-30	—	+30	%	—
Gain-Bandwidth Product*	f _T	—	250	—	MHz	V _{CE} = 10V, I _E = -5mA, f = 100MHz

*Transistor - For Reference Only

Typical Curves – DDTTC114TUA



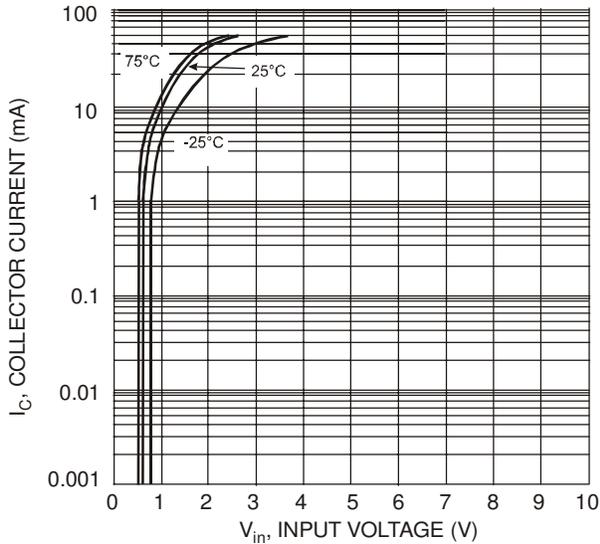


Fig. 5 Collector Current vs. Input Voltage

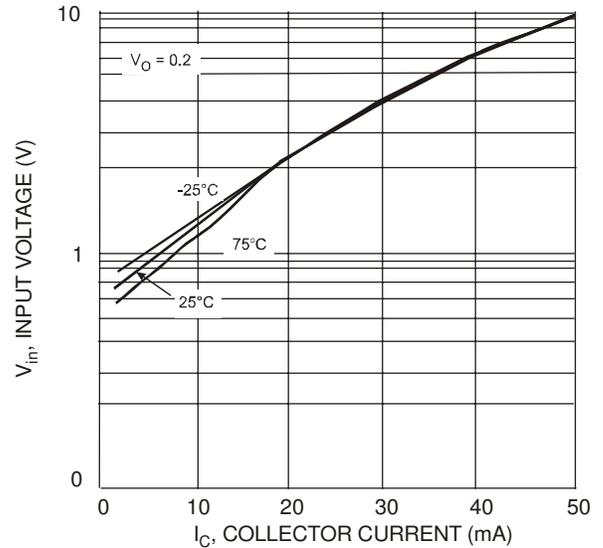


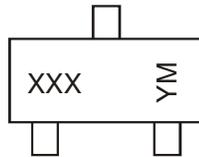
Fig. 6 Input Voltage vs. Collector Current

Ordering Information (Note 4 & 5)

Device	Packaging	Shipping
DDTC1xxTUA-7-F	SOT-323	3000/Tape & Reel
DDTC1xxTUA-13-F	SOT-323	10,000/Tape & Reel

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

Marking Information



XXX = Product Type Marking Code, See Table on Page 1
 YM = Date Code Marking
 Y = Year ex: T = 2006
 M = Month ex: 9 = September

Date Code Key

Year	2006	2007	2008	2009	2010	2011	2012
Code	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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