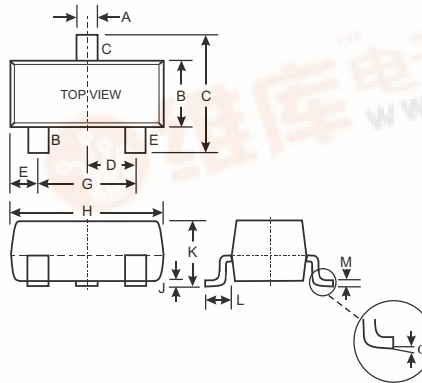


Features

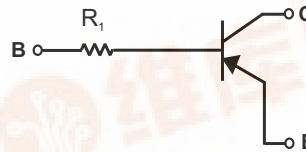
- Epitaxial Planar Die Construction
- Complementary NPN Types Available (DDTC)
- Built-In Biasing Resistor, R1 only
- Lead Free/RoHS Compliant (Note 2)

Mechanical Data

- Case: SOT-23 Molded Plastic
- Case Material: Molded Plastic. 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: Date Code and Type Code (See Table Below & Page 2)
- Ordering Information (See Page 2)
- Weight: 0.008 grams (approximate)



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
	0	8
All Dimensions in mm		



SCHEMATIC DIAGRAM

P/N	R1 (NOM)	Type Code
DDTA113TCA	1K	P01
DDTA123TCA	2.2K	P03
DDTA143TCA	4.7K	P07
DDTA114TCA	10K	P12
DDTA124TCA	22K	P16
DDTA144TCA	47K	P19
DDTA115TCA	100K	P23
DDTA125TCA	200K	P25

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 _{JA}	625	C/W
Operating and Storage and Temperature Range	T _j , T _{STG}	-55 to +150	C

- Note: 1. Mounted on FR4 PC Board with recommended pad layout at <http://www.diodes.com/datasheets/ap02001.pdf>.
2. No purposefully added lead.

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 = -50 A
Collector-Emitter Breakdown Voltage	BV _{CEO}	-50			V	I _C = -1mA
Emitter-Base Breakdown Voltage	BV _{EBO}	-5			V	I _E = -50 A
Collector Cutoff Current	I _{CBO}			-0.5	A	V _{CB} = -50V
Emitter Cutoff Current	I _{EBO}			-0.5	A	V _{EB} = -4V
Collector-Emitter Saturation Voltage	V _{CE(sat)}			-0.3	V	I _C /I _B = -10mA/-1mA DDTA113TCA I _C /I _B = -5mA/-0.5mA DDTA123TCA I _C /I _B = -2.5mA/-0.25mA DDTA143TCA I _C /I _B = -1mA/-0.1mA DDTA114TCA I _C /I _B = -5mA/-0.5mA DDTA124TCA I _C /I _B = -2.5mA/-0.25mA DDTA144TCA I _C /I _B = -1mA/-0.1mA DDTA115TCA I _C /I _B = -0.5mA/-0.05mA DDTA125TCA
DC Current Transfer Ratio	h _{FE}	100	250	600		I _C = -1mA, V _{CE} = -5V
Input Resistor (R ₁) Tolerance	R ₁	-30		+30	%	
Gain-Bandwidth Product*	f _T		250		MHz	V _{CE} = -10V, I _E = 5mA, f = 100MHz

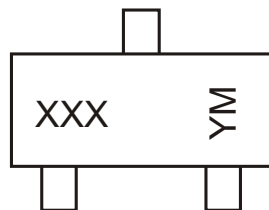
* Transistor - For Reference Only

Ordering Information (Note 3)

Device	Packaging	Shipping
DDTA113TCA-7-F	SOT-23	3000/Tape & Reel
DDTA123TCA-7-F	SOT-23	3000/Tape & Reel
DDTA143TCA-7-F	SOT-23	3000/Tape & Reel
DDTA114TCA-7-F	SOT-23	3000/Tape & Reel
DDTA124TCA-7-F	SOT-23	3000/Tape & Reel
DDTA144TCA-7-F	SOT-23	3000/Tape & Reel
DDTA115TCA-7-F	SOT-23	3000/Tape & Reel
DDTA125TCA-7-F	SOT-23	3000/Tape & Reel

Notes: 3. 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: N = 2002
 M = Month ex: 9 = September

Date Code Key

Year	2002	2003	2004	2005	2006	2007	2008	2009
Code	N	P	R	S	T	U	V	W

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

[查询"DDTA144TCA-7-F"供应商](#)

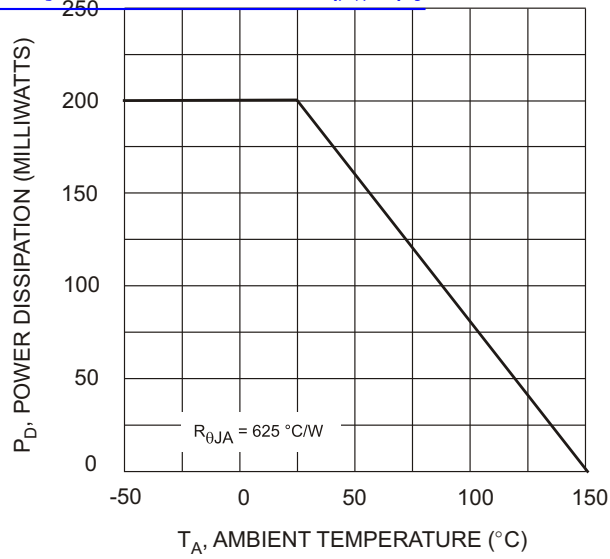


Fig. 1 Derating Curve

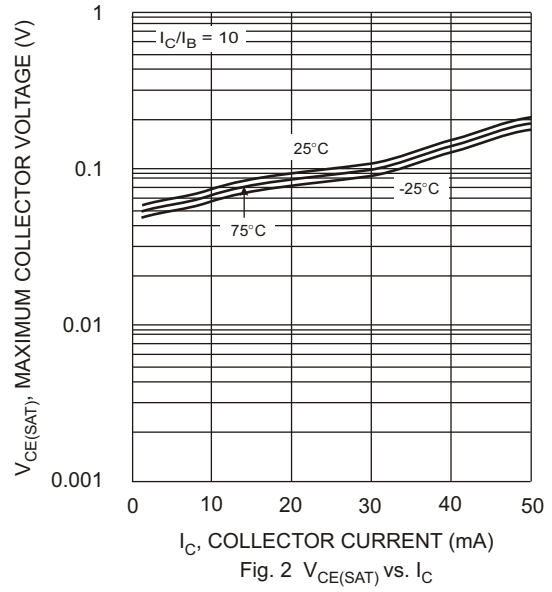


Fig. 2 $V_{CE(SAT)}$ vs. I_C

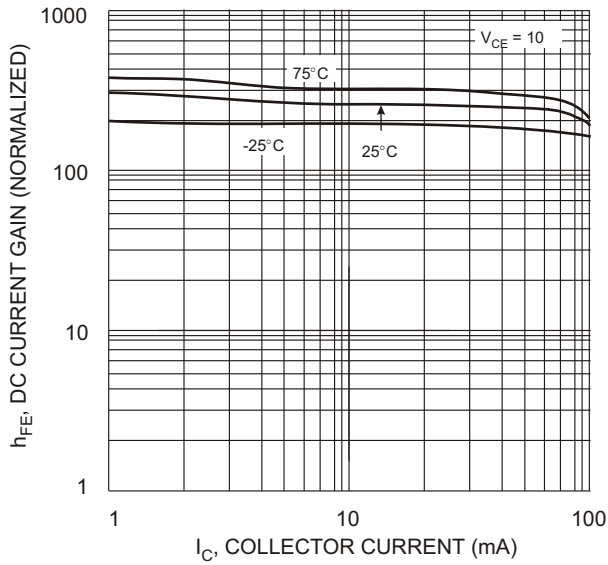


Fig. 3 DC Current Gain

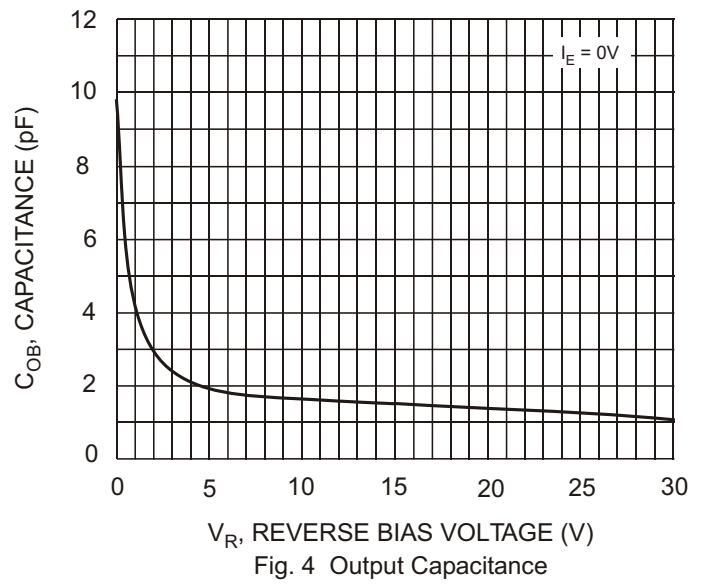


Fig. 4 Output Capacitance

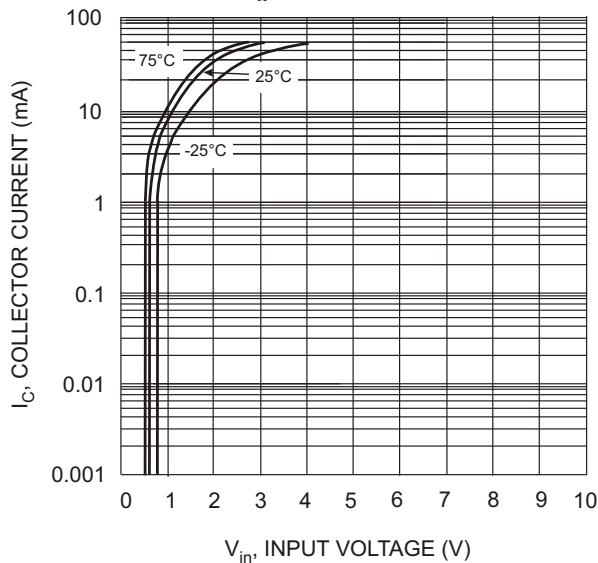


Fig. 5 Collector Current Vs. Input Voltage

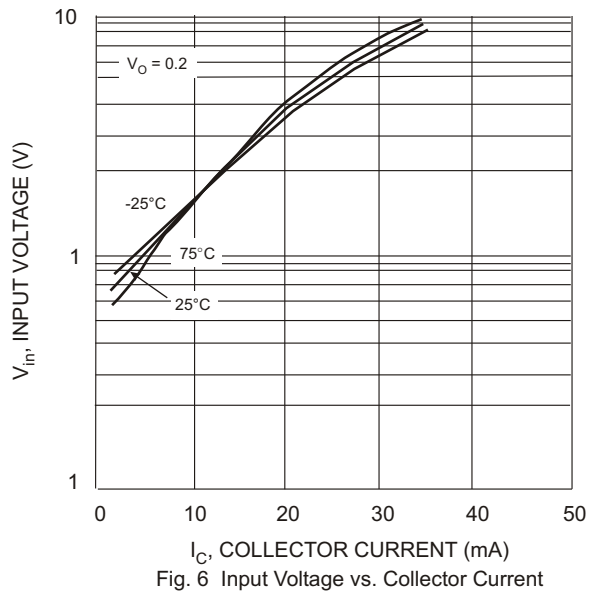


Fig. 6 Input Voltage vs. Collector Current

[查询"DDTA144TCA-7-F"供应商](#)

IMPORTANT NOTICE

Diodes, Inc. and its subsidiaries reserve the right to make changes without further notice to any product herein to make corrections, modifications, enhancements, improvements, or other changes. Diodes, Inc. does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

The products located on our website at www.diodes.com are not recommended for use in life support systems where a failure or malfunction of the component may directly threaten life or cause injury without the expressed written approval of Diodes Incorporated.