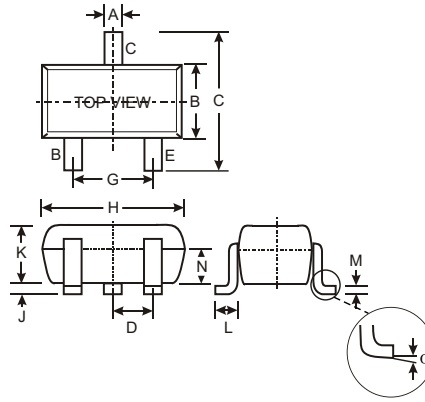


Features

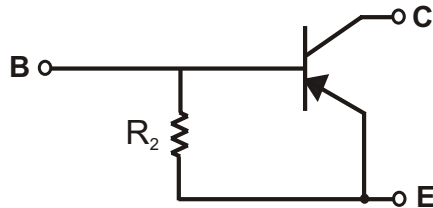
- Epitaxial Planar Die Construction
- Complementary NPN Types Available (DDTC)
- Built-In Biasing Resistor, R2 only
- Also Available in Lead Free Version

Mechanical Data

- Case: SOT-523, Molded Plastic
- Case material - UL Flammability Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please see Ordering Information, Note 3, on Page 2
- Terminal Connections: See Diagram
- Marking: Date Code and Marking Code (See Diagrams & Page 2)
- Weight: 0.002 grams (approx.)
- Ordering Information (See Page 2)



SOT-523			
Dim	Min	Max	Typ
A	0.15	0.30	0.22
B	0.75	0.85	0.80
C	1.45	1.75	1.60
D	—	—	0.50
G	0.90	1.10	1.00
H	1.50	1.70	1.60
J	0.00	0.10	0.05
K	0.60	0.80	0.75
L	0.10	0.30	0.22
M	0.10	0.20	0.12
N	0.45	0.65	0.50
α	0°	8°	—
All Dimensions in mm			



SCHMATIC DIAGRAM

P/N	R2 (NOM)	MARKING
DDTA114GE	10K Ω	P26
DDTA124GE	22K Ω	P27
DDTA144GE	47K Ω	P28
DDTA115GE	100K Ω	P29

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	150	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	R _{θJA}	833	°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>.

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 = -720μA, DDTA114GE I _E = -330μA, DDTA124GE I _E = -160μA, DDTA144GE I _E = -72μA, DDTA115GE
Collector Cutoff Current		I _{CBO}	—	—	-0.5	μA	V _{CB} = -50V
Emitter Cutoff Current	DDTA114GE DDTA124GE DDTA144GE DDTA115GE	I _{EBO}	-300 -140 -65 -30	—	-580 -260 -130 -58	μA	V _{EB} = -4V
Collector-Emitter Saturation Voltage		V _{CE(sat)}	—	—	-0.3	V	I _C = -10mA, I _B = -0.5mA
DC Current Transfer Ratio	DDTA114GE DDTA124GE DDTA144GE DDTA115GE	h _{FE}	30 56 68 82	—	—	—	I _C = -5mA, V _{CE} = -5V
Bleeder Resistor (R ₂) Tolerance		DR ₂	-30	—	+30	%	—
Gain-Bandwidth Product*		f _T	—	250	—	MHz	V _{CE} = -10V, I _E = 5mA, f = 100MHz

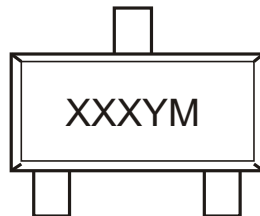
* Transistor - For Reference Only

Ordering Information (Note 2)

Device	Packaging	Shipping
DDTA114GE-7	SOT-523	3000/Tape & Reel
DDTA124GE-7	SOT-523	3000/Tape & Reel
DDTA144GE-7	SOT-523	3000/Tape & Reel
DDTA115GE-7	SOT-523	3000/Tape & Reel

- Notes:
- For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
 - For Lead Free version (with Lead Free terminal finish) part number, please add "-F" suffix to part number above.
Example: DDTA115GE-7-F.

Marking Information



XXX = Product Type Marking Code (See Page 1, e.g. P26 = DDTA114GE)
 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

TYPICAL CURVES - DDTA114GE

NEW PRODUCT

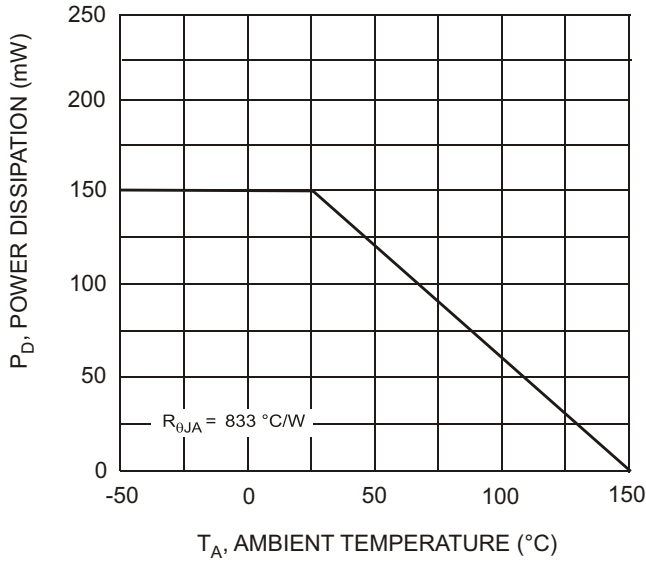


Fig. 1, Derating Curve

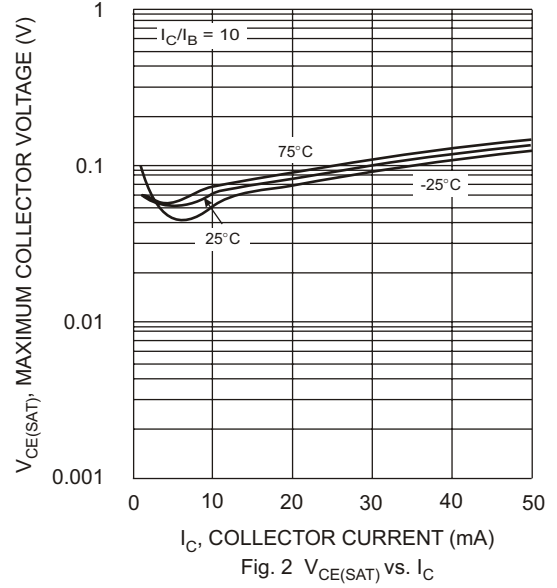


Fig. 2 $V_{CE(SAT)}$ vs. I_C

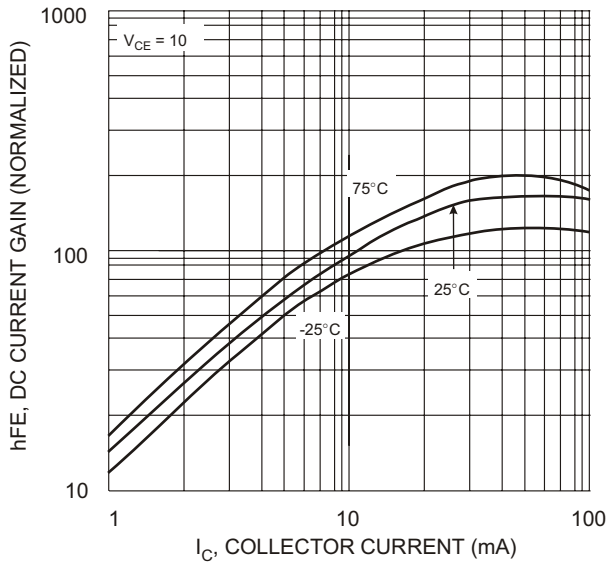


Fig. 3 DC Current Gain

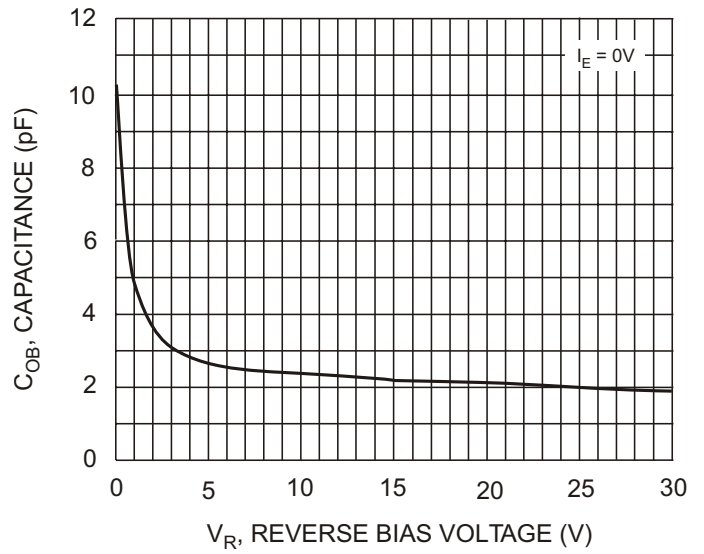


Fig. 4 Output Capacitance

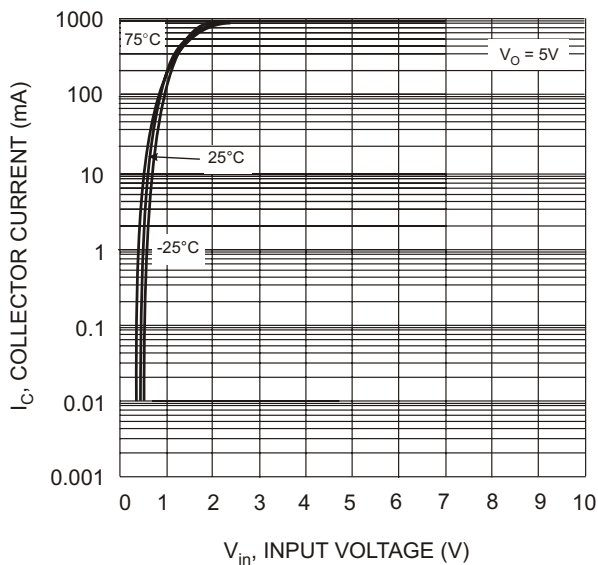


Fig. 5 Collector Current Vs. Input Voltage

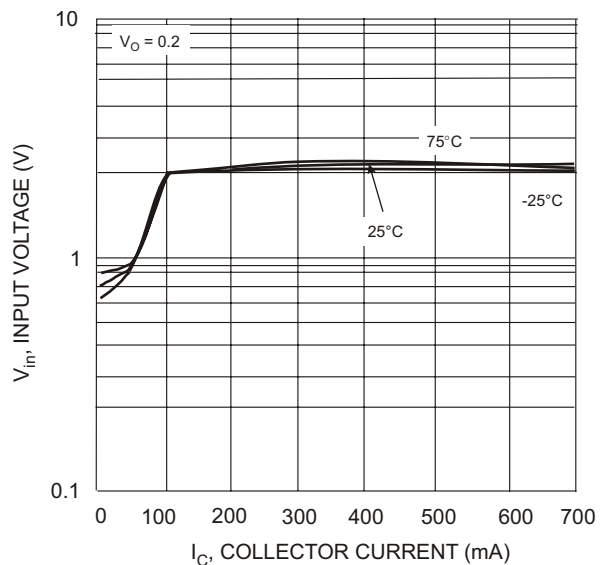


Fig. 6 Input Voltage vs. Collector Current