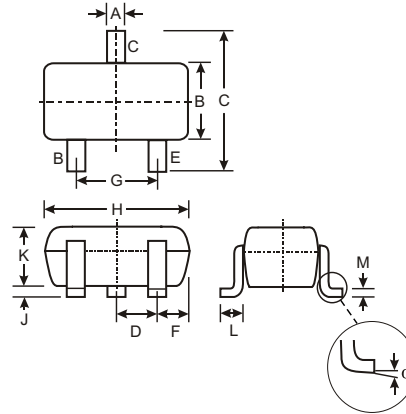


Features

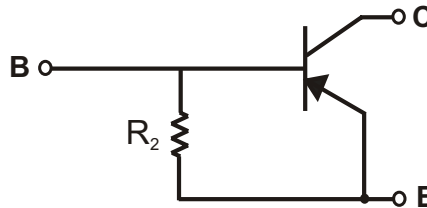
- Epitaxial Planar Die Construction
- Complementary NPN Types Available (DDTC)
- Built-In Biasing Resistor, R2 only
- Also Available in Lead Free Version

Mechanical Data

- Case: SC-59, 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: 0.008 grams (approx.)
- Ordering Information (See Page 2)



SC-59		
Dim	Min	Max
A	0.35	0.50
B	1.50	1.70
C	2.70	3.00
D	0.95	
G	1.90	
H	2.90	3.10
J	0.013	0.10
K	1.00	1.30
L	0.35	0.55
M	0.10	0.20
α	0°	8°
All Dimensions in mm		



SCHMATIC DIAGRAM

P/N	R2 (NOM)	MARKING
DDTA114KA	10K Ω	P26
DDTA124KA	22K Ω	P27
DDTA144KA	47K Ω	P28
DDTA115KA	100K Ω	P29

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	-50	V
Collector-Emitter Voltage	V _{CE0}	-50	V
Emitter-Base Voltage	V _{EB0}	-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}	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>.

Electrical Characteristics @ T_A = 25°C unless otherwise specified

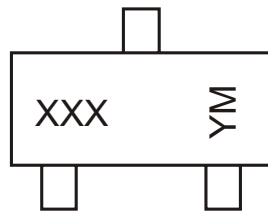
Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage		BV _{CBO}	-50	—	—	V	I _C = -50μA
Collector-Emitter Breakdown Voltage		BV _{CEO}	-50	—	—	V	I _C = -1mA
Emitter-Base Breakdown Voltage		BV _{EBO}	5	—	—	V	I _E = -720μA, DDTA114GKA I _E = -330μA, DDTA124GKA I _E = -160μA, DDTA144GKA I _E = -72μA, DDTA115GKA
Collector Cutoff Current		I _{CBO}	—	—	-0.5	μA	V _{CB} = -50V
Emitter Cutoff Current	DDTA114KA DDTA124KA DDTA144KA DDTA115KA	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	DDTA114GKA DDTA124GKA DDTA144GKA DDTA115GKA	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
DDTA114GKA-7	SC-59	3000/Tape & Reel
DDTA124GKA-7	SC-59	3000/Tape & Reel
DDTA144GKA-7	SC-59	3000/Tape & Reel
DDTA115GKA-7	SC-59	3000/Tape & Reel

- Notes: 2. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
 3. For Lead Free version (with Lead Free terminal finish) part number, please add "-F" suffix to part number above.
 Example: DDTA115GKA-7-F.

Marking Information


XXX = Product Type Marking Code
 See Sheet 1 Diagrams
 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 - DDTA114KA

NEW PRODUCT

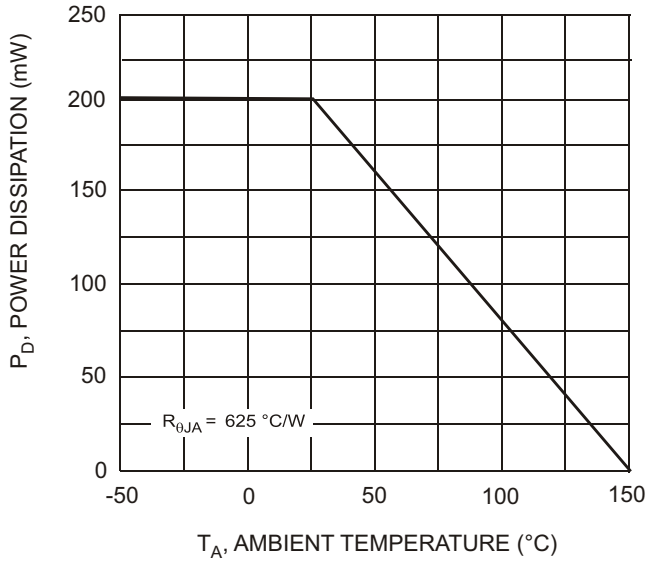


Fig. 1, Derating Curve

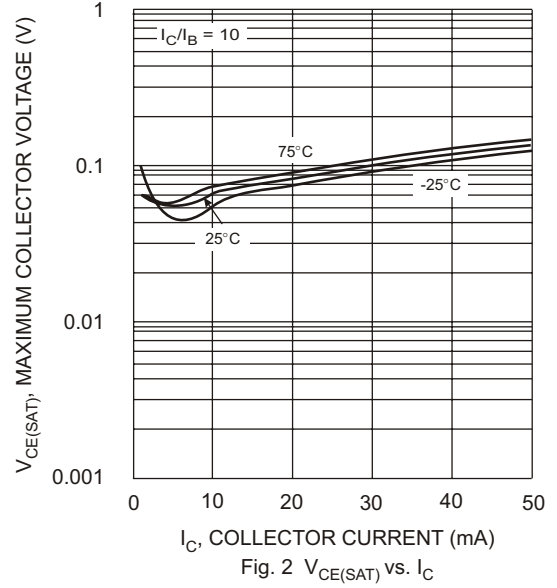


Fig. 2 $V_{CE(SAT)}$ vs. I_C

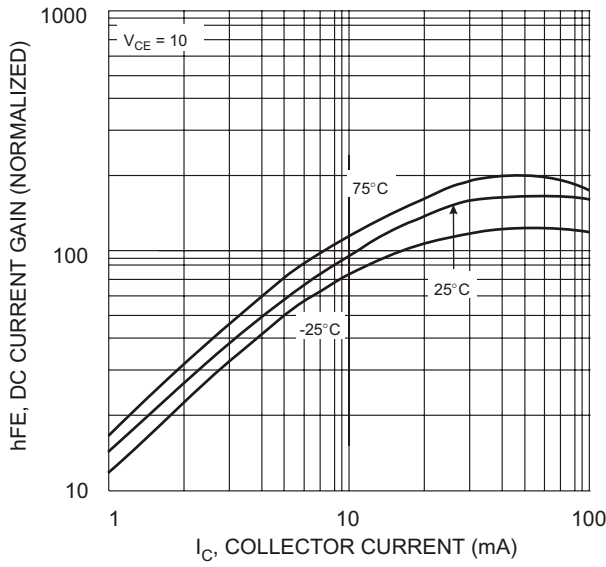


Fig. 3 DC CURRENT GAIN

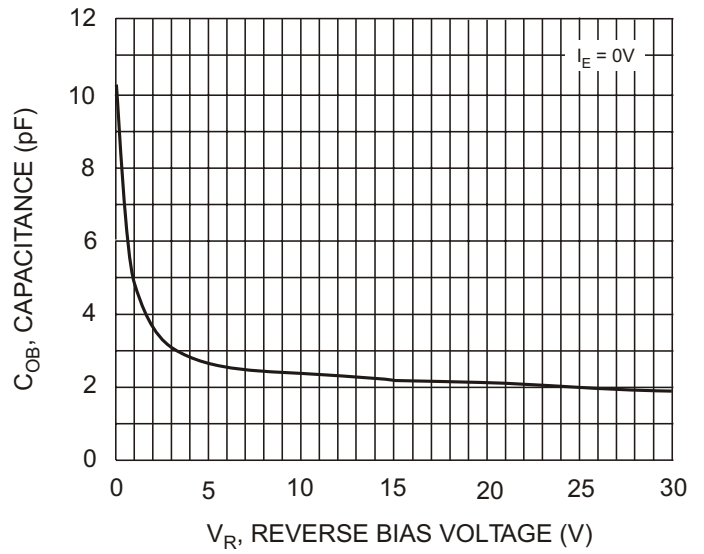


Fig. 4 Output Capacitance

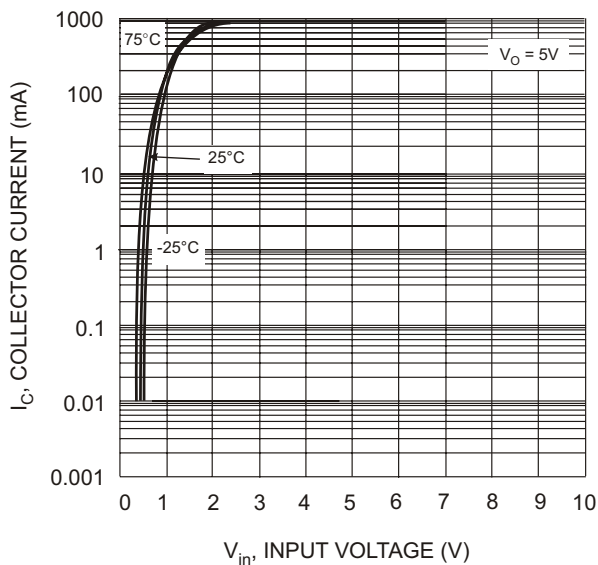


Fig. 5 Collector Current Vs. Input Voltage

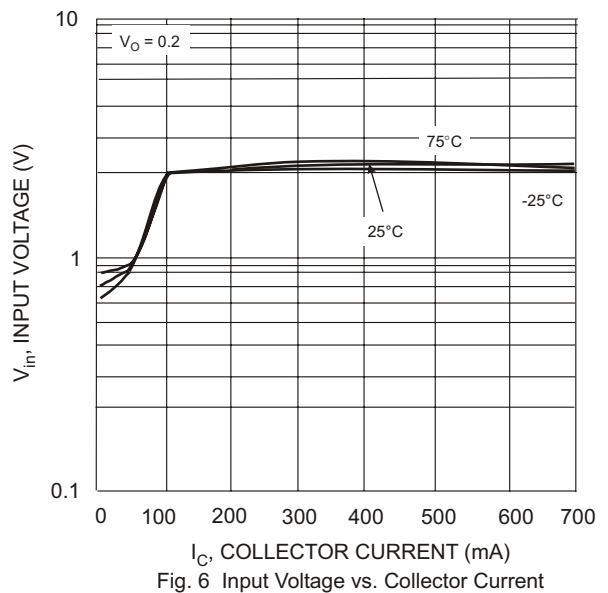


Fig. 6 Input Voltage vs. Collector Current