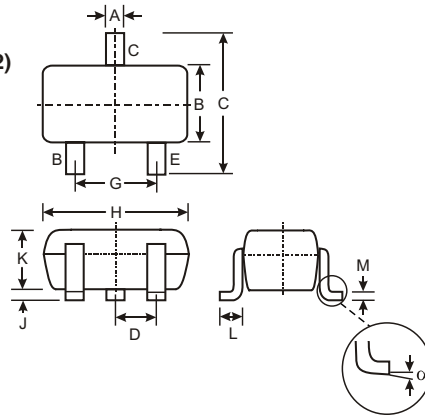


Features

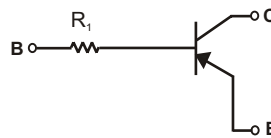
- Epitaxial Planar Die Construction
- Complementary NPN Types Available (DDTC)
- Built-In Biasing Resistor, R1 only
- Available in Lead Free/RoHS Compliant Version (Note 2)

Mechanical Data

- Case: SC-59
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish annealed over Copper leadframe). Please see Ordering Information, Note 4, on Page 2
- Terminal Connections: See Diagram
- Marking: Date Code and Type Code (See Table Below & Page 2)
- Ordering Information (See Page 2)
- Weight: 0.008 grams (approximate)



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	R1 (NOM)	Type Code
DDTA113TKA	1K Ω	P01
DDTA123TKA	2.2K Ω	P03
DDTA143TKA	4.7K Ω	P07
DDTA114TKA	10K Ω	P12
DDTA124TKA	22K Ω	P16
DDTA144TKA	47K Ω	P19
DDTA115TKA	100K Ω	P23
DDTA125TKA	200K Ω	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 _{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>.
 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 = -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 _{CBO}	—	—	-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 DDTA113TKA I _C /I _B = -5mA/-0.5mA DDTA123TKA I _C /I _B = -2.5mA/-0.25mA DDTA143TKA I _C /I _B = -1mA/-0.1mA DDTA114TKA I _C /I _B = -5mA/-0.5mA DDTA124TKA I _C /I _B = -2.5mA/-0.25mA DDTA144TKA I _C /I _B = -1mA/-0.1mA DDTA115TKA I _C /I _B = -0.5mA/-0.05mA DDTA125TKA
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

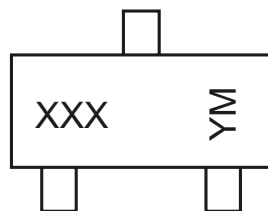
Ordering Information (Note 3)

Device	Packaging	Shipping
DDTA113TKA-7	SC-59	3000/Tape & Reel
DDTA123TKA-7	SC-59	3000/Tape & Reel
DDTA143TKA-7	SC-59	3000/Tape & Reel
DDTA114TKA-7	SC-59	3000/Tape & Reel
DDTA124TKA-7	SC-59	3000/Tape & Reel
DDTA144TKA-7	SC-59	3000/Tape & Reel
DDTA115TKA-7	SC-59	3000/Tape & Reel
DDTA125TKA-7	SC-59	3000/Tape & Reel

Notes: 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

4. For Lead Free/RoHS Compliant version part numbers, please add "-F" suffix to the part numbers above. Example: DDTA125TKA-7-F.

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

TYPICAL CURVES - DDTA114TKA

NEW PRODUCT

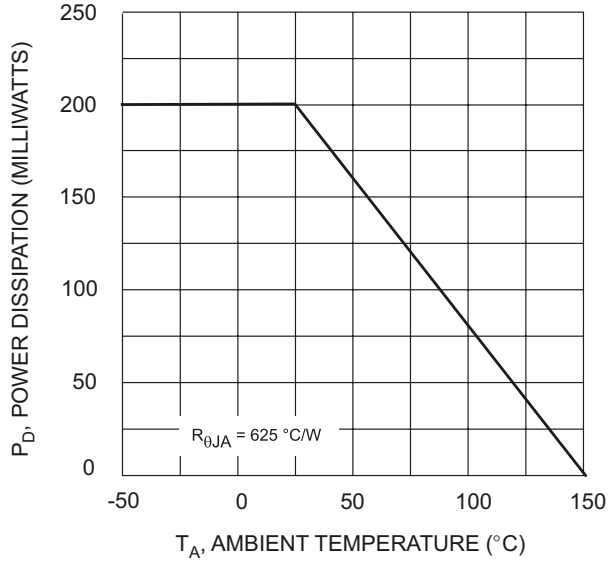


Fig. 1 Derating Curve

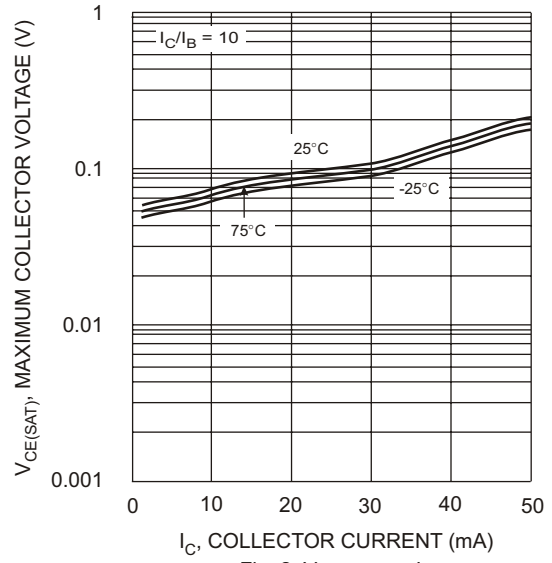


Fig. 2 $V_{CE(SAT)}$ vs. I_C

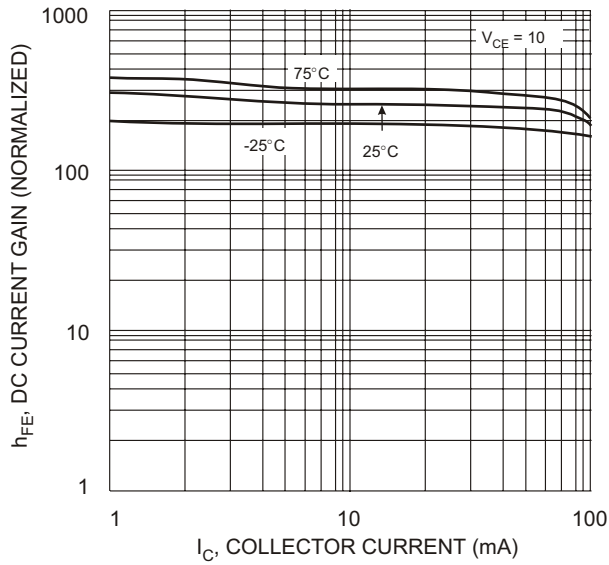


Fig. 3 DC Current Gain

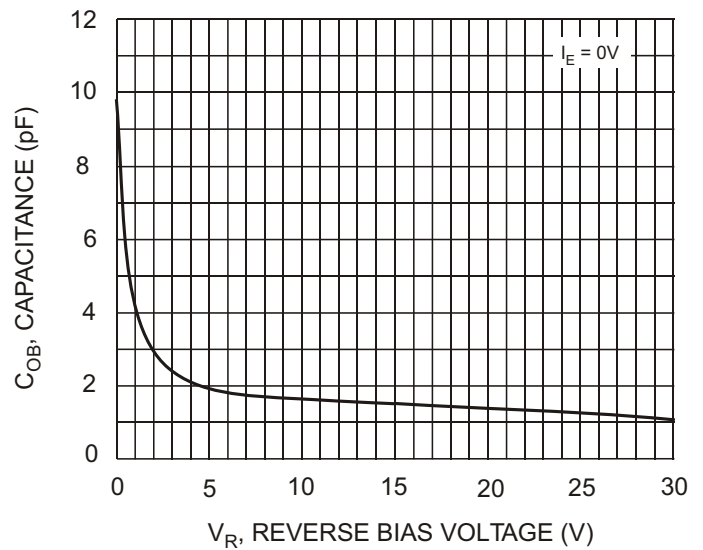


Fig. 4 Output Capacitance

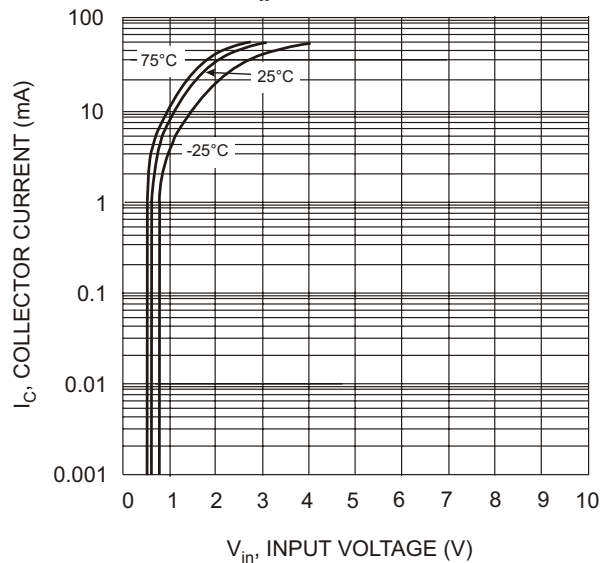


Fig. 5 Collector Current Vs. Input Voltage

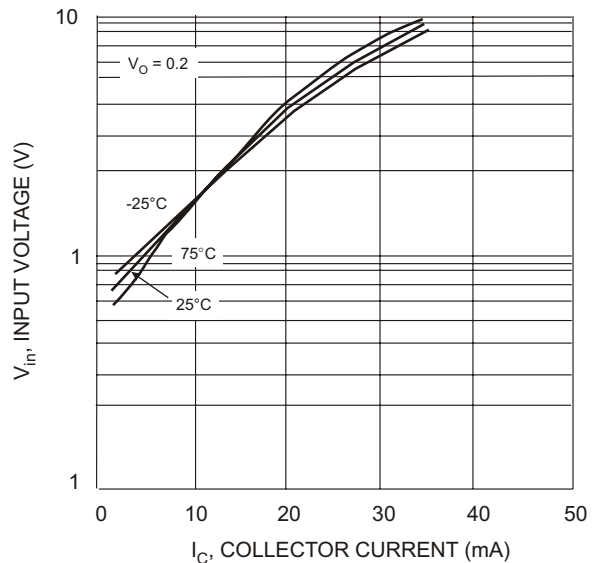


Fig. 6 Input Voltage vs. Collector Current