DDTA (R1-ONLY SERIES) KA

PNP PRE-BIASED SMALL SIGNAL SC-59 SURFACE MOUNT TRANSISTOR

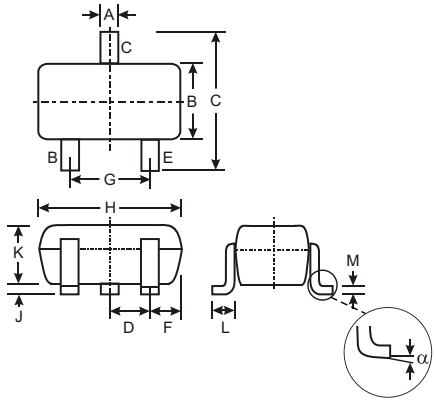
NEW PRODUCT

Features

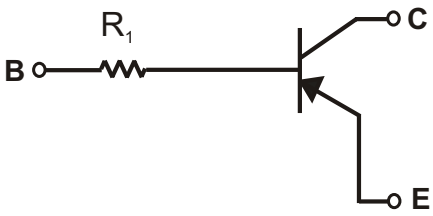
- Epitaxial Planar Die Construction
- Complementary NPN Types Available (DDTC)
- Built-In Biasing Resistor, R1 only

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
- 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		



SCHEMATIC DIAGRAM

P/N	R1 (NOM)	MARKING
DDTA113TKA	1KΩ	P01
DDTA123TKA	2.2KΩ	P03
DDTA143TKA	4.7KΩ	P07
DDTA114TKA	10KΩ	P12
DDTA124TKA	22KΩ	P16
DDTA144TKA	47KΩ	P19
DDTA115TKA	100KΩ	P23
DDTA125TKA	200KΩ	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)	$R_{\theta JA}$	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.

NEW PRODUCT

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/-.25mA DDTA143TKA I_C/I_B = -1mA/-.1mA DDTA114TKA I_C/I_B = -5mA-/0.5mA DDTA124TKA I_C/I_B = -2.5mA/-.25mA DDTA144TKA I_C/I_B = -1mA/-0.1mA DDTA115TKA I_C/I_B = -.5mA/-.05mA DDTA125TKA
DC Current Transfer Ratio	h_{FE}	100	250	600	—	I_C = -1mA, V_{CE} = -5V
Input Resistor (R_1) Tolerance	DR_1	-30	—	+30	%	—
Gain-Bandwidth Product*	f_T	—	250	—	MHz	V_{CE} = -10V, I_E = 5mA, f = 100MHz

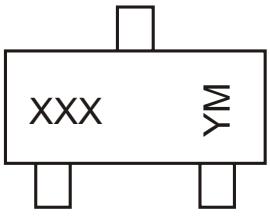
* Transistor - For Reference Only

Ordering Information (Note 2)

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: 2. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

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

NEW PRODUCT

TYPICAL CURVES - DDTA114TKA

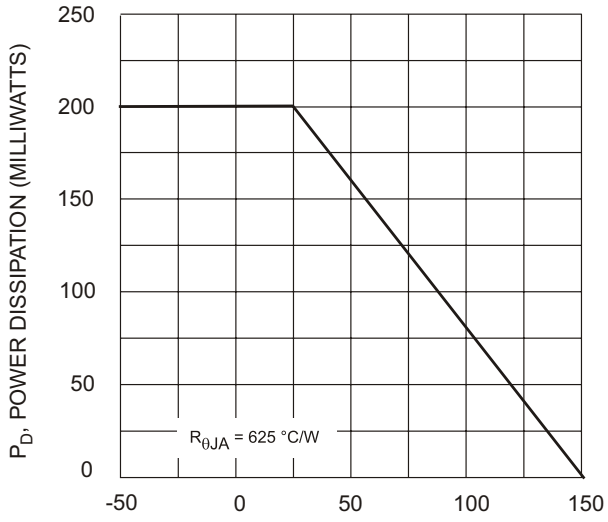


Fig. 1 Derating Curve

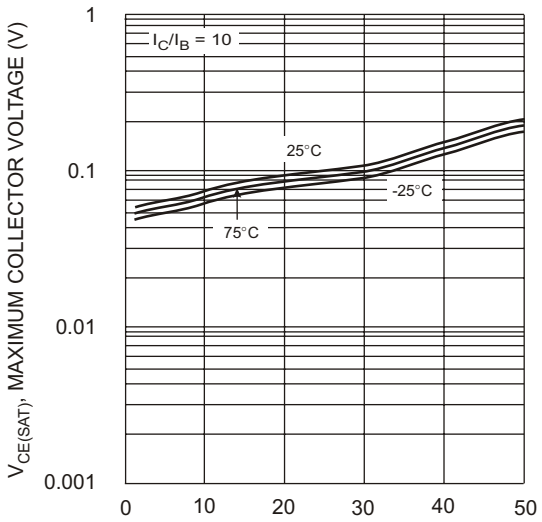


Fig. 2 $V_{CE(SAT)}$ vs. I_C

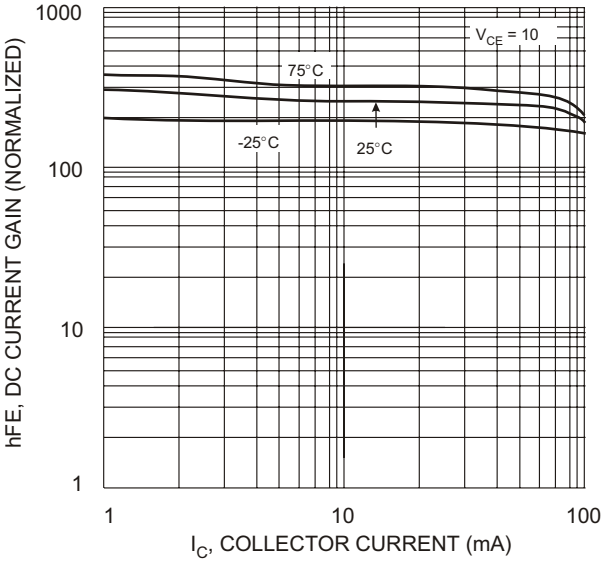


Fig. 3 DC Current Gain

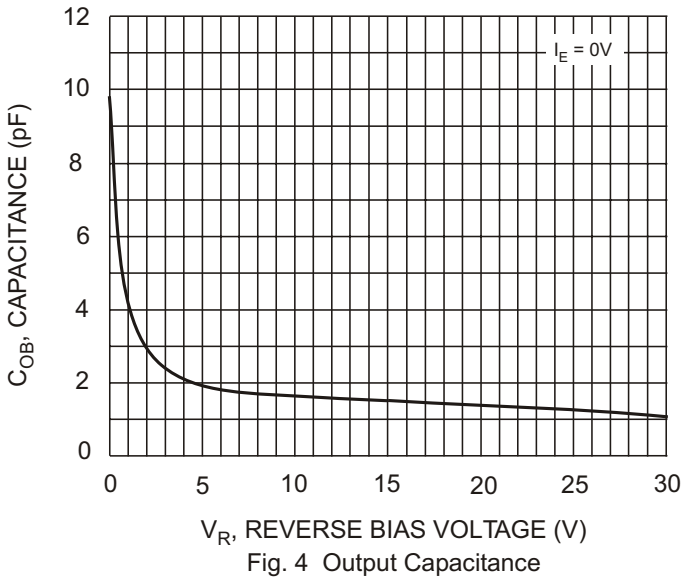


Fig. 4 Output Capacitance

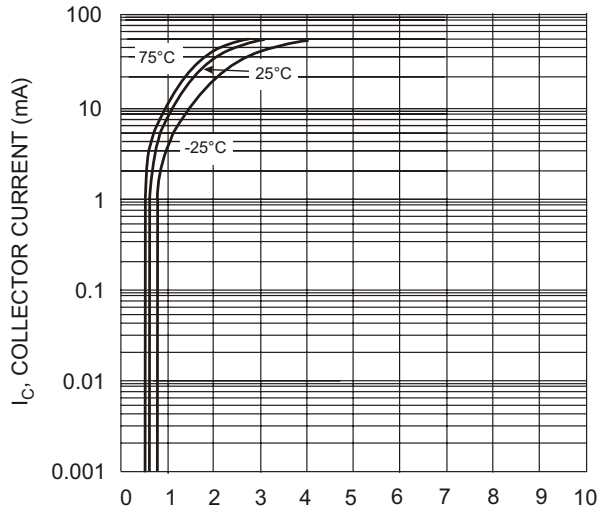


Fig. 5 Collector Current Vs. Input Voltage

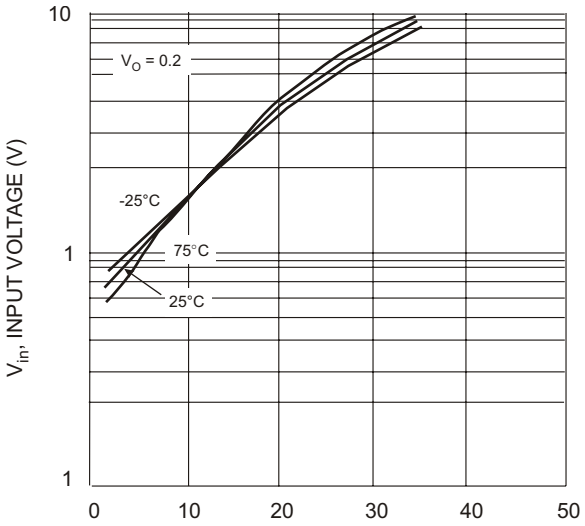


Fig. 6 Input Voltage vs. Collector Current