

Maximum Ratings (continued) @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Power Dissipation	P _d	200	mW
Output Current	I _C (Max)	-100	mA
Thermal Resistance, Junction to Ambient Air (Note 4)	R _{θJA}	625	°C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-55 to +150	°C

Notes: 4. 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
Input Voltage	DDTA113ZKA DDTA123YKA DDTA123JKA DDTA143XKA DDTA143FKA DDTA143ZKA DDTA114YKA DDTA114WKA DDTA124XKA DDTA144VKA DDTA144WKA	V _{I(off)}	-0.3 -0.3 -0.5 -0.3 -0.3 -0.5 -0.3 -0.8 -0.4 -1.0 -0.8	—	—	V	V _{CC} = 5V, I _O = 100μA
	DDTA113ZKA DDTA123YKA DDTA123JKA DDTA143XKA DDTA143FKA DDTA143ZKA DDTA114YKA DDTA114WKA DDTA124XKA DDTA144VKA DDTA144WKA	V _{I(on)}	—	—	-3.0 -3.0 -1.1 -2.5 -1.3 -1.3 -1.4 -3.0 -2.5 -5.0 -4.0	V	V _O = -0.3V, I _O = -20mA V _O = -0.3V, I _O = -20mA V _O = -0.3V, I _O = -5mA V _O = -0.3V, I _O = -20mA V _O = -0.3V, I _O = -3mA V _O = -0.3V, I _O = -5mA V _O = -0.3V, I _O = -1mA V _O = -0.3V, I _O = -2mA V _O = -0.3V, I _O = -2mA V _O = -0.3V, I _O = -2mA V _O = -0.3V, I _O = -2mA
Output Voltage		V _{O(on)}	—	-0.1	-0.3	V	I _O /I _I = -5mA/-0.25mA DDTA123JKA I _O /I _I = -5mA/-0.25mA DDTA143ZKA I _O /I _I = -5mA/-0.25mA DDTA114YKA I _O /I _I = -10mA/-0.5mA All Others
Input Current	DDTA113ZKA DDTA123YKA DDTA123JKA DDTA143XKA DDTA143FKA DDTA143ZKA DDTA114YKA DDTA114WKA DDTA124XKA DDTA144VKA DDTA144WKA	I _I	—	—	-7.2 -3.8 -3.6 -1.8 -1.8 -1.8 -0.88 -0.88 -0.36 -0.16 -0.16	mA	V _I = -5V
Output Current		I _{O(off)}	—	—	-0.5	μA	V _{CC} = -50V, V _I = 0V
DC Current Gain	DDTA113ZKA DDTA123YKA DDTA123JKA DDTA143XKA DDTA143FKA DDTA143ZKA DDTA114YKA DDTA114WKA DDTA124XKA DDTA144VKA DDTA144WKA	G _I	-33 -33 -80 -30 -68 -80 -68 -24 -68 -33 -56	—	—	—	V _O = -5V, I _O = -10mA
Input Resistor Tolerance		ΔR ₁	-30	—	+30	%	—
Resistance Ratio Tolerance		ΔR ₂ /R ₁	-20	—	+20	%	—
Gain-Bandwidth Product*		f _T	—	250	—	MHz	V _{CE} = -10V, I _E = 5mA, f = 100MHz

* Transistor - For Reference Only

Typical Curves – DDTA123JKA

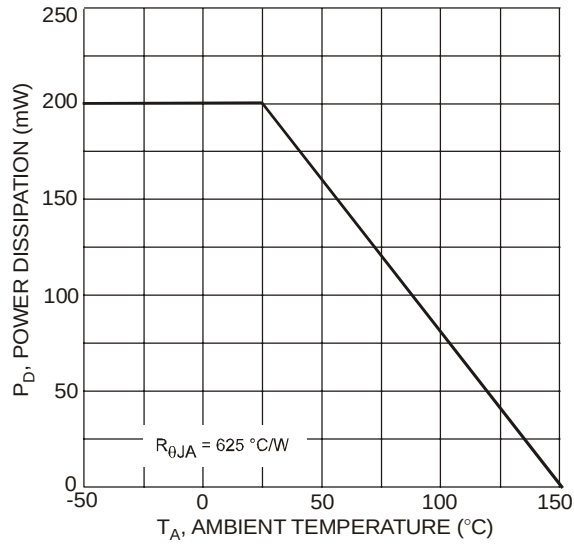


Fig. 1 Derating Curve

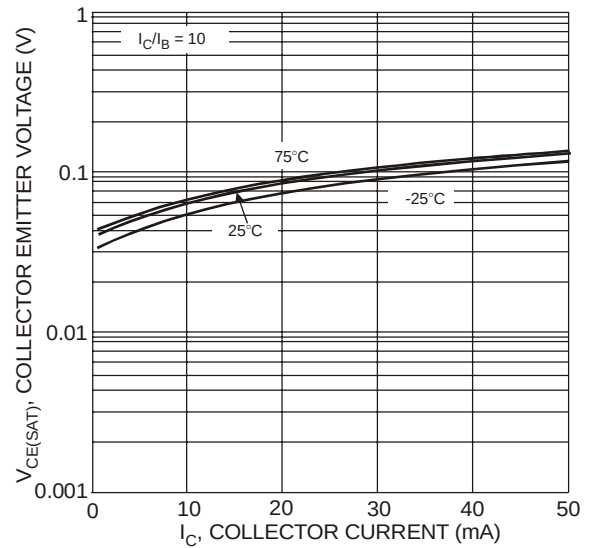


Fig. 2 $V_{CE(SAT)}$ vs. I_C

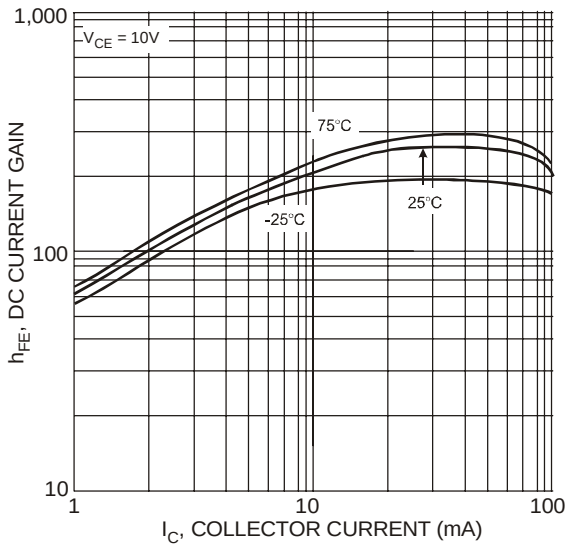


Fig. 3 DC Current Gain

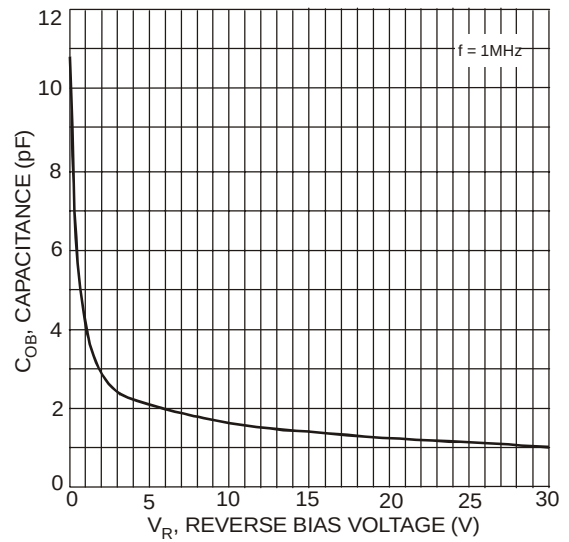


Fig. 4 Output Capacitance

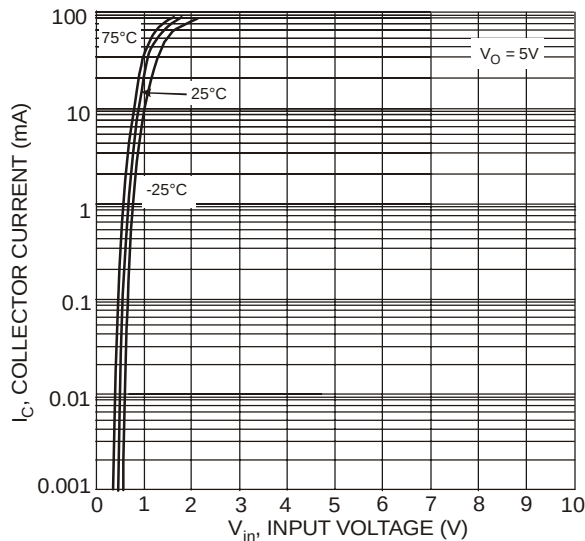


Fig. 5 Collector Current vs. Input Voltage

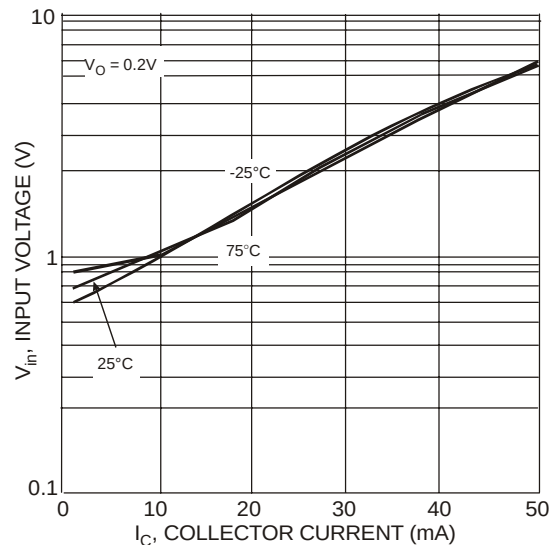


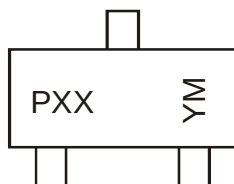
Fig. 6 Input Voltage vs. Collector Current

Ordering Information (Note 3 & 5)

Device	Packaging	Shipping
DDTA113ZKA-7-F	SC-59	3000/Tape & Reel
DDTA123YKA-7-F	SC-59	3000/Tape & Reel
DDTA123JKA-7-F	SC-59	3000/Tape & Reel
DDTA143XKA-7-F	SC-59	3000/Tape & Reel
DDTA143FKA-7-F	SC-59	3000/Tape & Reel
DDTA143ZKA-7-F	SC-59	3000/Tape & Reel
DDTA114YKA-7-F	SC-59	3000/Tape & Reel
DDTA114WKA-7-F	SC-59	3000/Tape & Reel
DDTA124XKA-7-F	SC-59	3000/Tape & Reel
DDTA144VKA-7-F	SC-59	3000/Tape & Reel
DDTA144WKA-7-F	SC-59	3000/Tape & Reel

Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



PXX = Product Type Marking Code, See Table on Page 1
YM = Date Code Marking
Y = Year ex: T = 2006
M = Month ex: 9 = September

Date Code Key

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	N	P	R	S	T	U	V	W	X	Y	Z

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

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