

Absolute Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic		Symbol	Value	Unit
Supply Voltage <Pin: (3) to (2)>		V _{CC}	-50	V
Input Voltage <Pin: (1) to (2)>	DDTA123ECA DDTA143ECA DDTA114ECA DDTA124ECA DDTA144ECA DDTA115ECA	V _{IN}	+10 to -12 +10 to -30 +10 to -40 +10 to -40 +10 to -40 +10 to -40	V
Output Current	DDTA123ECA DDTA143ECA DDTA114ECA DDTA124ECA DDTA144ECA DDTA115ECA	I _O	-100 -100 -50 -30 -30 -20	mA
Output Current		I _C (Max)	-100	mA

Thermal Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 7)	P _D	200	mW
Thermal Resistance, Junction to Ambient Air (Note 7)	R _{θJA}	625	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Notes: 7. Mounted on FR-4 PC Board with minimum recommended pad layout.

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Input Voltage		V _{I(off)}	-0.5	-1.1	—	V	V _{CC} = -5V, I _O = -100μA
		V _{I(on)}	—	-1.9	-3		V _O = -0.3V, I _O = -20mA, DDTA123ECA V _O = -0.3V, I _O = -20mA, DDTA143ECA V _O = -0.3V, I _O = -10mA, DDTA114ECA V _O = -0.3V, I _O = -5mA, DDTA124ECA V _O = -0.3V, I _O = -2mA, DDTA144ECA V _O = -0.3V, I _O = -1mA, DDTA115ECA
Output Voltage		V _{O(on)}	—	-0.1	-0.3	V	I _O /I _I = -10mA/-0.5mA, DDTA123ECA I _O /I _I = -10mA/-0.5mA, DDTA143ECA I _O /I _I = -10mA/-0.5mA, DDTA114ECA I _O /I _I = -10mA/-0.5mA, DDTA124ECA I _O /I _I = -10mA/-0.5mA, DDTA144ECA I _O /I _I = -5mA/-0.25mA, DDTA115ECA
Input Current	DDTA123ECA DDTA143ECA DDTA114ECA DDTA124ECA DDTA144ECA DDTA115ECA	I _I	—	—	-3.8 -1.8 -0.88 -0.36 -0.18 -0.15	mA	V _I = -5V
Output Current		I _{O(off)}	—	—	-0.5	μA	V _{CC} = -50V, V _I = 0V
DC Current Gain	DDTA123ECA DDTA143ECA DDTA114ECA DDTA124ECA DDTA144ECA DDTA115ECA	G _I	20 20 30 56 68 82	—	—	—	V _O = -5V, I _O = -20mA V _O = -5V, I _O = -10mA V _O = -5V, I _O = -5mA V _O = -5V, I _O = -5mA V _O = -5V, I _O = -5mA V _O = -5V, I _O = -5mA
Input Resistor Tolerance		ΔR ₁	-30	—	+30	%	—
Resistance Ratio Tolerance		ΔR ₂ /R ₁	0.8	1	1.2	%	—
Gain-Bandwidth Product (Note 8)		f _T	—	250	—	MHz	V _{CE} = -10V, I _E = -5mA, f = 100MHz

Note: 8. Transistor - For Reference Only

Typical Characteristics – DDTA143ECA (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

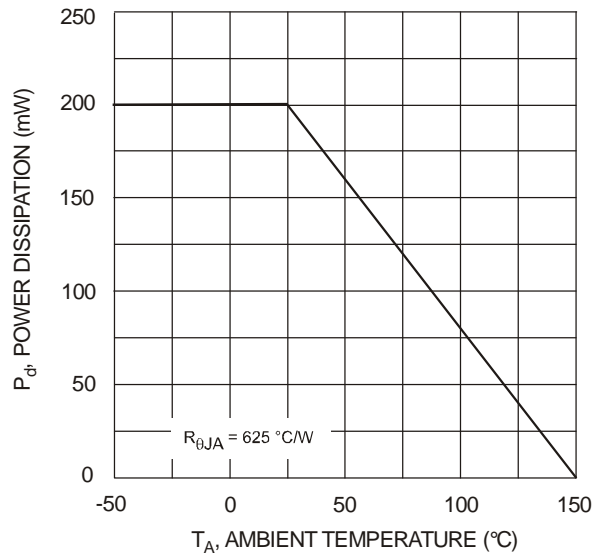


Fig. 1 Derating Curve

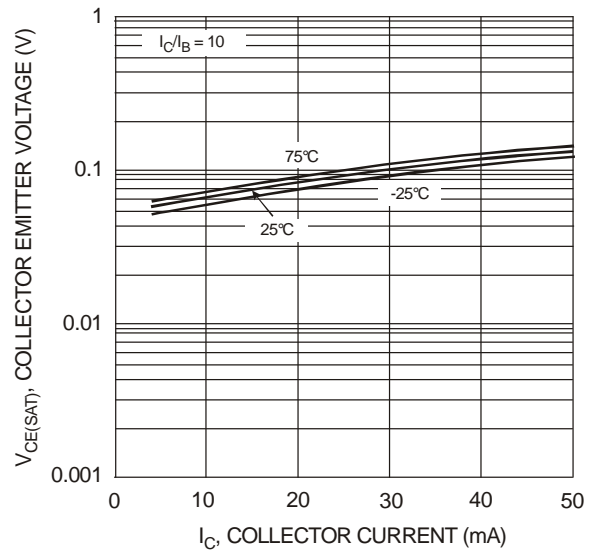


Fig. 2 $V_{CE(SAT)}$ vs. I_C

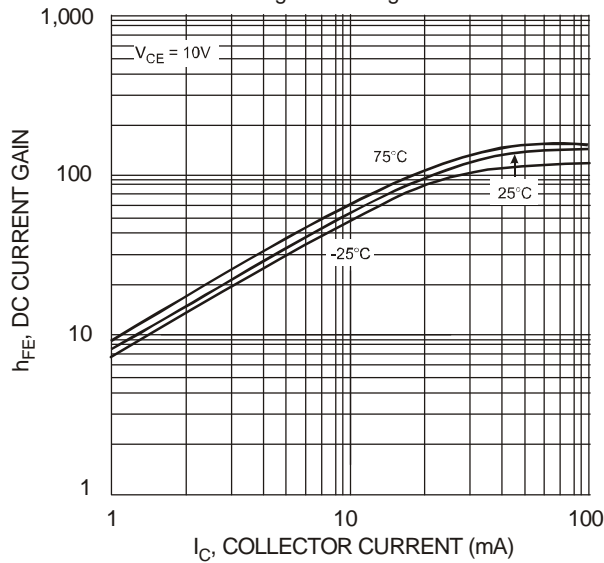


Fig. 3 DC Current Gain

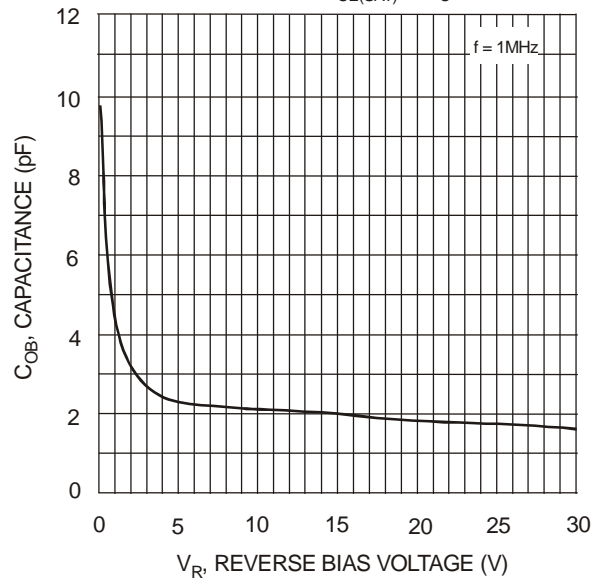


Fig. 4 Output Capacitance

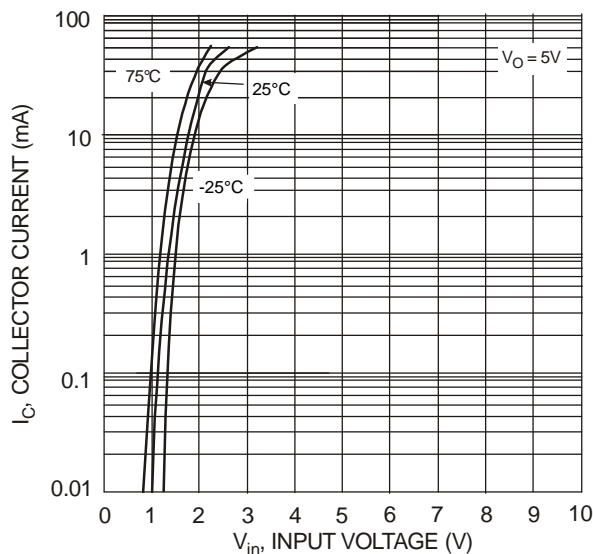


Fig. 5 Collector Current vs. Input Voltage

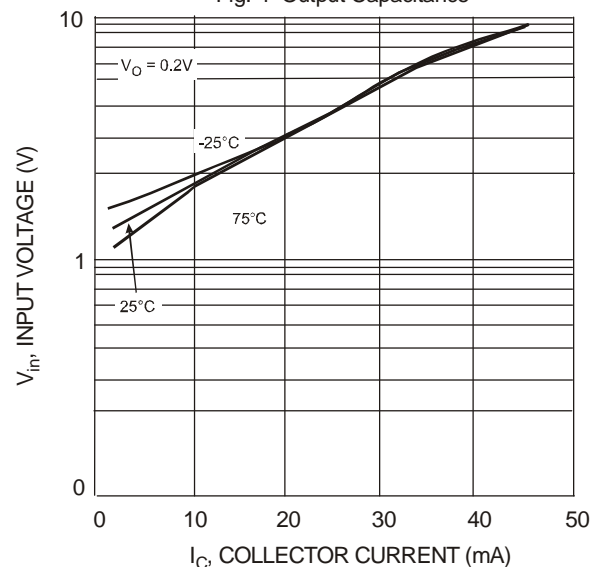
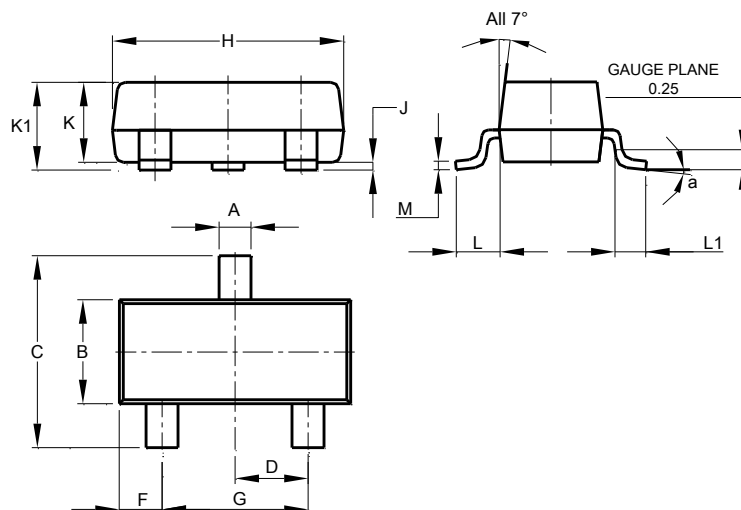


Fig. 6 Input Voltage vs. Collector Current

Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT23

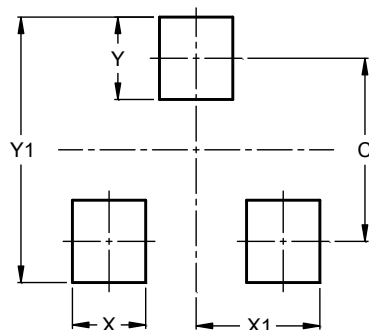


SOT23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.890	1.00	0.975
K1	0.903	1.10	1.025
L	0.45	0.61	0.55
L1	0.25	0.55	0.40
M	0.085	0.150	0.110
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT23



Dimensions	Value (in mm)
C	2.0
X	0.8
X1	1.35
Y	0.9
Y1	2.9

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