

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)>	DDTA123EE	V _{IN}	+10 to -12	V
	DDTA143EE		+10 to -30	
	DDTA114EE		+10 to -40	
	DDTA124EE		+10 to -40	
	DDTA144EE		+10 to -40	
	DDTA115EE		+10 to -40	
Output Current	DDTA123EE	I _O	-100	mA
	DDTA143EE		-100	
	DDTA114EE		-50	
	DDTA124EE		-30	
	DDTA144EE		-30	
	DDTA115EE		-20	
Output Current		I _C (Max)	-100	mA

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

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5 & 6)	P _D	150	mW
Thermal Resistance, Junction to Ambient Air (Note 5)	R _{θJA}	833	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

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, DDTA123EE V _O = -0.3V, I _O = -20mA, DDTA143EE V _O = -0.3V, I _O = -10mA, DDTA114EE V _O = -0.3V, I _O = -5mA, DDTA124EE V _O = -0.3V, I _O = -2mA, DDTA144EE V _O = -0.3V, I _O = -1mA, DDTA115EE
Output Voltage		V _{O(ON)}	—	-0.1	-0.3	V	I _O /I _I = -10mA/-0.5mA DDTA123EE I _O /I _I = -10mA/-0.5mA DDTA143EE I _O /I _I = -10mA/-0.5mA DDTA114EE I _O /I _I = -10mA/-0.5mA DDTA124EE I _O /I _I = -10mA/-0.5mA DDTA144EE I _O /I _I = -5mA/-0.25mA DDTA115EE
Input Current		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		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 7)		f _T	—	250	—	MHz	V _{CE} = -10V, I _E = 5mA, f = 100MHz

Notes: 5. Mounted on FR-4 PC Board with minimum recommended pad layout.
6. 150mW per element must not be exceeded.
7. Transistor only.

Typical Electrical Characteristics – DDTA143EE

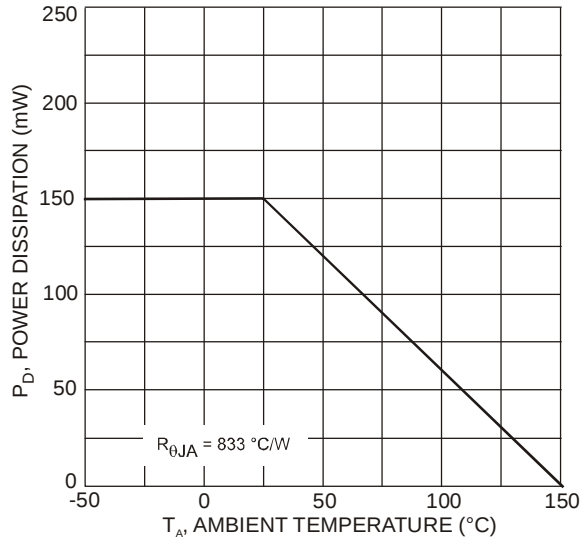


Figure 1 Power Dissipation vs. Ambient Temperature

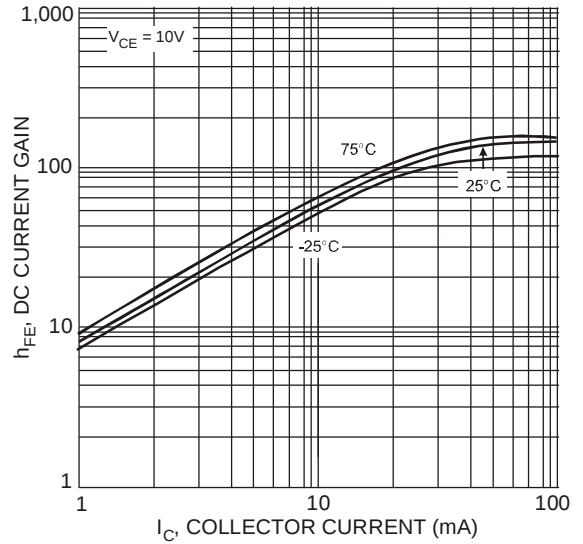


Figure 2 Typical DC Current Gain vs. Collector Current

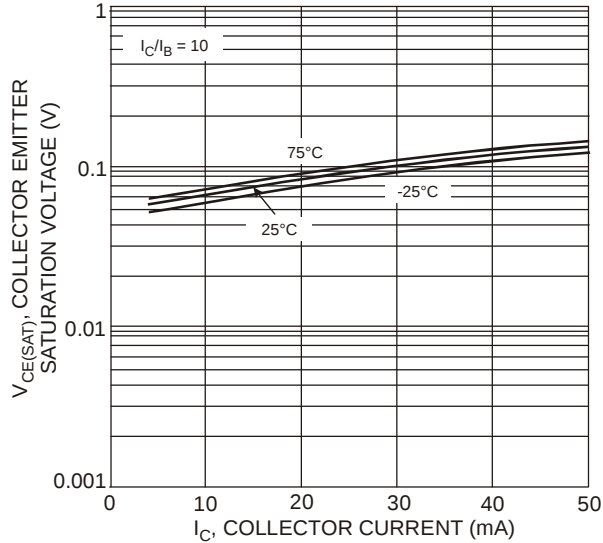


Figure 3 Typical Collector Emitter Saturation Voltage vs. Collector Current

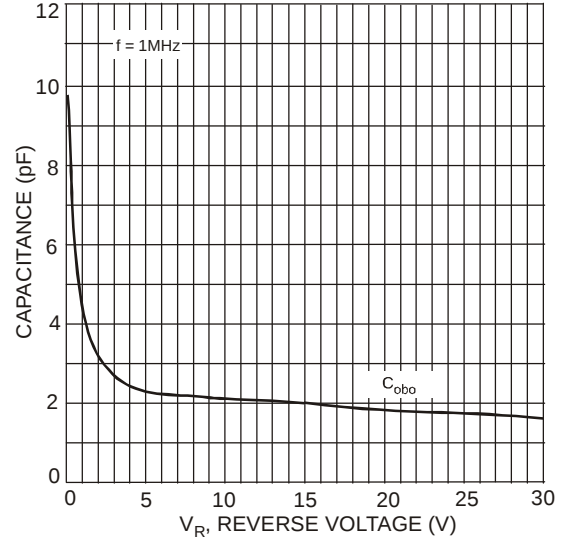


Figure 4 Typical Capacitance Characteristics

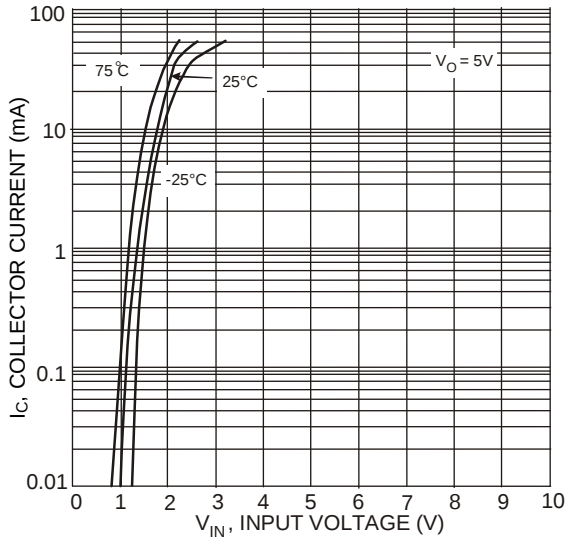


Figure 5 Collector Current vs. Input Voltage

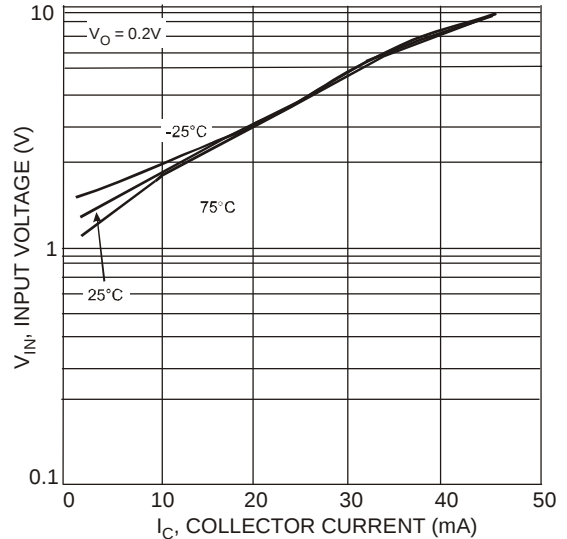
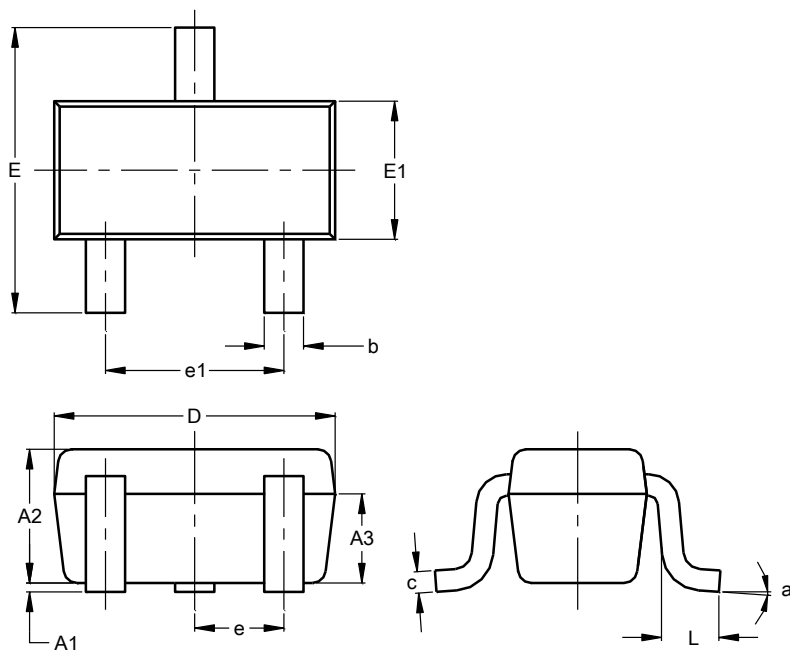


Figure 6 Input Voltage vs. Collector Current

Package Outline Dimensions

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

SOT523

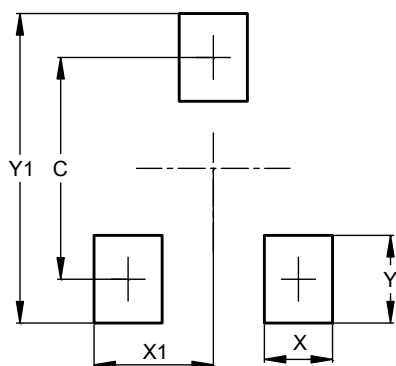


SOT523			
Dim	Min	Max	Typ
A1	0.00	0.10	0.05
A2	0.60	0.80	0.75
A3	0.45	0.65	0.50
b	0.15	0.30	0.22
c	0.10	0.20	0.12
D	1.50	1.70	1.60
E	1.45	1.75	1.60
E1	0.75	0.85	0.80
e	0.50 BSC		
e1	0.90	1.10	1.00
L	0.20	0.40	0.33
a	0°	--	8°
All Dimensions in mm			

Suggested Pad Layout

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

SOT523



Dimensions	Value (in mm)
C	1.29
X	0.40
X1	0.70
Y	0.51
Y1	1.80

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