

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

Characteristic	Symbol	Value	Unit
Supply Voltage	V _{CC}	-50	V
Input Voltage	V _{IN}	+10 to -40 +10 to -40 +10 to -30 +6 to -40 +5 to -12 +10 to -40 +5V Max +5V Max	V
Output Current	I _O	-30 -30 -100 -70 -100 -50 -100 -100	mA
Output Current All	I _C (Max)	-100	mA
Power Dissipation	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

Note: 5. Mounted on FR4 Board with recommended pad layout at <http://www.diodes.com/package-outlines.html>.

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

Characteristic (DDA143TH & DDA114TH only)	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 Cut-Off Current	I _{CBO}	—	—	-0.5	μA	V _{CB} = -50V
Emitter Cut-Off Current	I _{EBO}	—	—	-0.5	μA	V _{EB} = -4V
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	—	—	-0.3	V	I _C /I _B = -2.5mA / -0.25mA DDA143TH I _C /I _B = -1mA / -0.1mA DDA114TH
DC Current Transfer Ratio	h _{FE}	100	250	600	—	I _C = -1mA, V _{CE} = -5V
Gain-Bandwidth Product*	f _T	—	250	—	MHz	V _{CE} = -10V, I _E = 5mA, f = 100MHz

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Input Voltage	DDA124EH DDA144EH DDA143EH DDA114YH DDA123JH DDA114EH	V _{L(OFF)}	-0.5 -0.5 -0.5 -0.3 -0.5 -0.5	-1.1 -1.1 -1.1 — — -1.1	—	V	V _{CC} = -5V, I _O = -100μA
	DDA124EH DDA144EH DDA143EH DDA114YH DDA123JH DDA114EH	V _{L(ON)}	—	— — — — — -1.9	-3.0 -3.0 -3.0 -1.4 -1.1 -3.0	V	V _O = -0.3V, I _O = -5mA V _O = -0.3V, I _O = -2mA V _O = -0.3V, I _O = -20mA V _O = -0.3V, I _O = -1mA V _O = -0.3V, I _O = -5mA V _O = -0.3V, I _O = -10mA
Output Voltage	DDA124EH DDA144EH DDA143EH DDA114YH DDA123JH DDA114EH	V _{O(ON)}	—	-0.1	-0.3	V	I _O /I _L = -10mA / -0.5mA I _O /I _L = -10mA / -0.5mA I _O /I _L = -10mA / -0.5mA I _O /I _L = -5mA / -0.25mA I _O /I _L = -5mA / -0.25mA I _O /I _L = -10mA / -0.5mA
Input Current	DDA124EH DDA144EH DDA143EH DDA114YH DDA123JH DDA114EH	I _L	—	—	-0.36 -0.18 -1.8 -0.88 -3.6 -0.88	mA	V _I = -5V
Output Current		I _{O(OFF)}	—	—	-0.5	μA	V _{CC} = -50V, V _I = -0V
DC Current Gain	DDA124EH DDA144EH DDA143EH DDA114YH DDA123JH DDA114EH	G _L	56 68 20 68 80 30	—	—	—	V _O = -5V, I _O = -5mA V _O = -5V, I _O = -5mA V _O = -5V, I _O = -10mA V _O = -5V, I _O = -10mA V _O = -5V, I _O = -10mA V _O = -5V, I _O = -5mA
Gain-Bandwidth Product*		f _T	—	250	—	MHz	V _{CE} = -10V, I _E = -5mA, f = 100MHz

* Transistor - For Reference Only

Typical Curves - DDA143EH

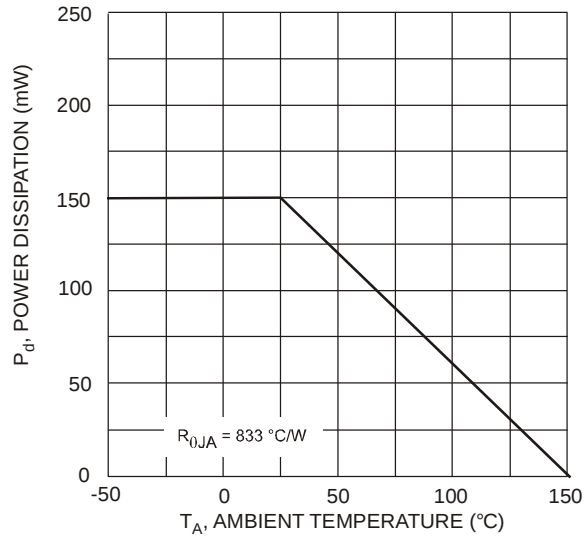


Fig. 1 Derating Curve

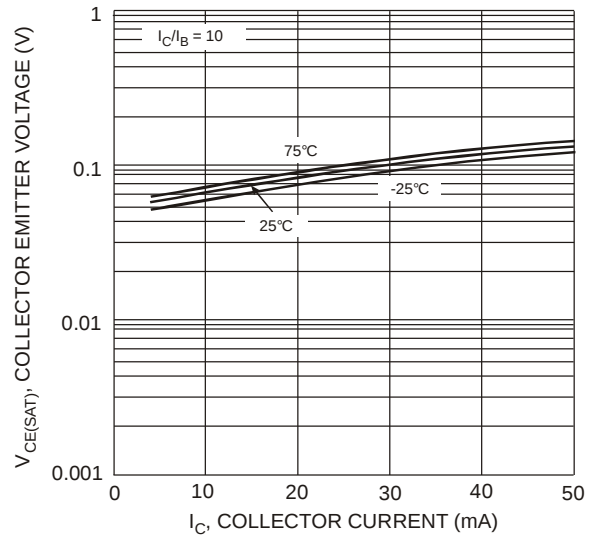


Fig. 2 $V_{CE(SAT)}$ vs. I_C

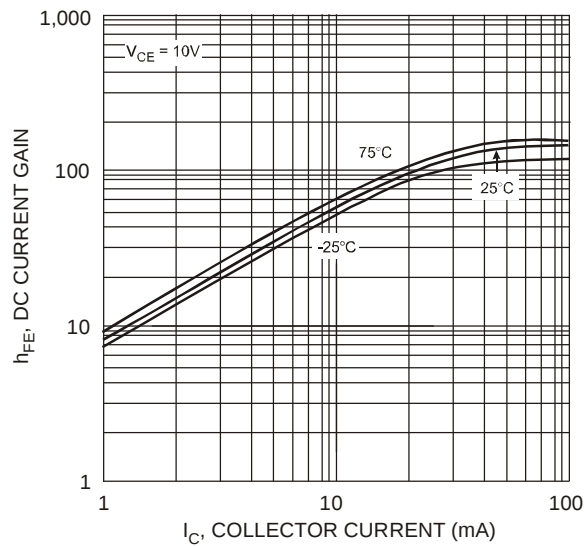


Fig. 3 DC Current Gain

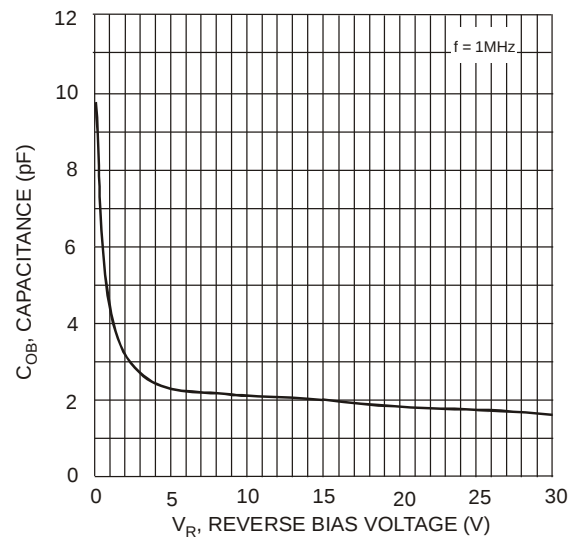


Fig. 4 Output Capacitance

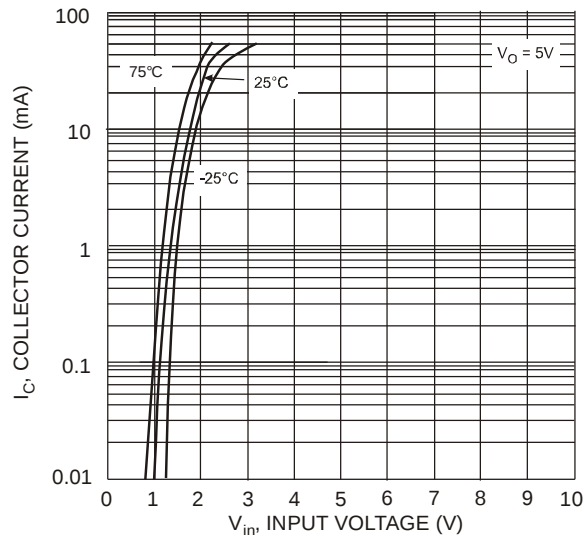


Fig. 5 Collector Current vs. Input Voltage

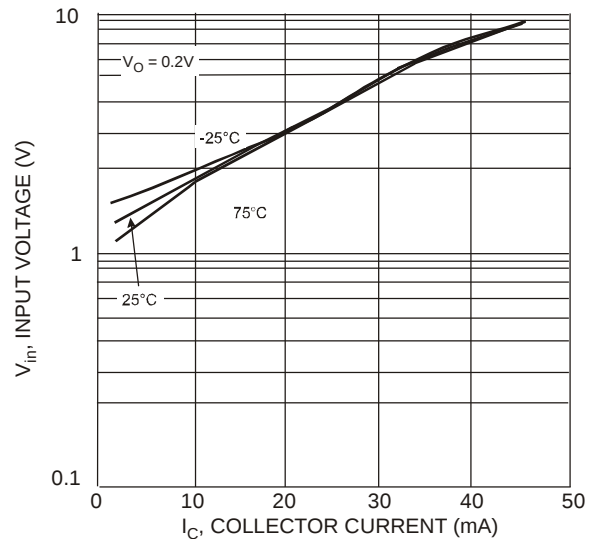
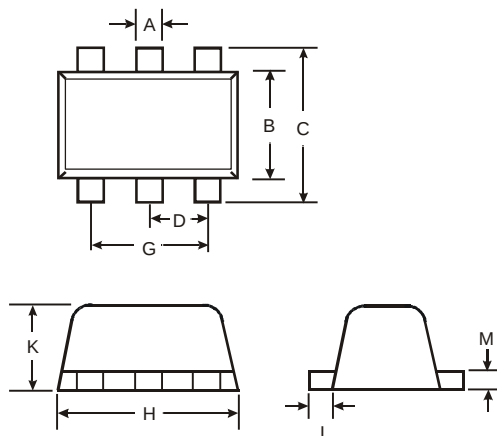


Fig. 6 Input Voltage vs. Collector Current

Package Outline Dimensions

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

SOT563

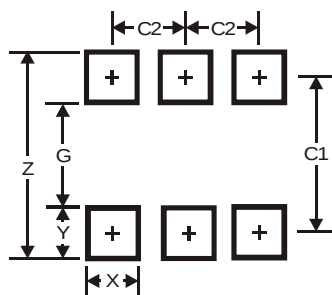


SOT563			
Dim	Min	Max	Typ
A	0.15	0.30	0.20
B	1.10	1.25	1.20
C	1.55	1.70	1.60
D	-	-	0.50
G	0.90	1.10	1.00
H	1.50	1.70	1.60
K	0.55	0.60	0.60
L	0.10	0.30	0.20
M	0.10	0.18	0.11
All Dimensions in mm			

Suggested Pad Layout

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

SOT563



Dimensions	Value (in mm)
Z	2.2
G	1.2
X	0.375
Y	0.5
C1	1.7
C2	0.5

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