

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

Characteristic		Symbol	Value	Unit
Supply Voltage		Vcc	50	V
Input Voltage	DDC124EH DDC144EH DDC143EH DDC114YH DDC123JH DDC114EH DDC143TH DDC114TH	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	DDC124EH DDC144EH DDC143EH DDC114YH DDC123JH DDC114EH DDC143TH DDC114TH	lo	30 30 100 70 100 50 100	mA
Output Current	All	I _C (Max)	100	mA
Power Dissipation		Pd	150	mW
Thermal Resistance, Junction to Ambient Air	(Note 5)	$R_{\theta JA}$	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/datasheets/ap02001.pdf.



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

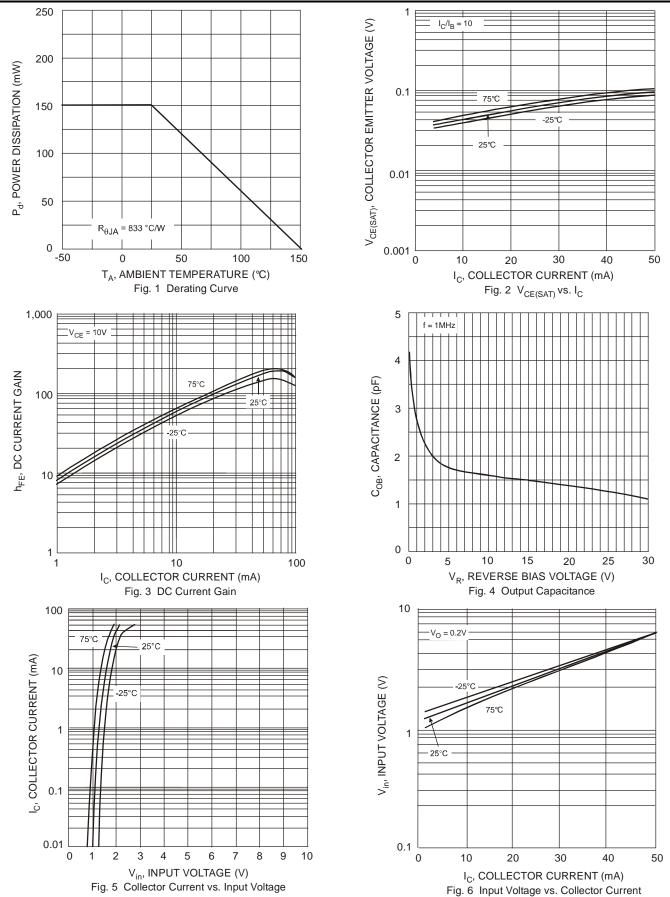
Characteristic (DDC143TH & DDC114TH only)	Symbol	Min	Тур	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	BV_CBO	50	_	_	٧	I _C = 50μA
Collector-Emitter Breakdown Voltage	BV _{CEO}	50	_	_	٧	I _C = 1mA
Emitter-Base Breakdown Voltage	BV _{EBO}	5	_	_	٧	I _E = 50μA
Collector Cut-Off Current	I _{CBO}		_	0.5	μΑ	V _{CB} = 50V
Emitter Cut-Off Current	I _{EBO}	_	_	0.5	μΑ	V _{EB} = 4V
Collector-Emitter Saturation Voltage	V _{CE(sat)}		_	0.3	V	$I_C/I_B = 2.5 \text{mA} / 0.25 \text{mA}$ DDC143TH $I_C/I_B = 1 \text{mA} / 0.1 \text{mA}$ DDC114TH
DC Current Transfer Ratio	h _{FE}	100	250	600	_	$I_C = 1$ mA, $V_{CE} = 5$ V
Gain-Bandwidth Product*	f⊤	_	250	_	MHz	V _{CE} = 10V, I _E = -5mA, f = 100MHz

Characteristic		Symbol	Min	Тур	Max	Unit	Test Condition
	DDC124EH DDC144EH DDC143EH DDC114YH DDC123JH DDC114EH	VI(off)	0.5 0.5 0.5 0.3 0.5 0.5	1.1 1.1 1.1 — — 1.1	_		V _{CC} = 5V, I _O = 100μA
Input Voltage	DDC124EH DDC144EH DDC143EH DDC114YH DDC123JH DDC114EH	V _{I(on)}		1.9 1.9 1.9 — — 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	DDC124EH DDC144EH DDC143EH DDC114YH DDC123JH DDC114EH	V _{O(on)}	_	0.1	0.3	V	I _O /I _I = 10mA / 0.5mA I _O /I _I = 10mA / 0.5mA I _O /I _I = 10mA / 0.5mA I _O /I _I = 5mA / 0.25mA I _O /I _I = 5mA / 0.25mA I _O /I _I = 10mA / 0.5mA
Input Current	DDC124EH DDC144EH DDC143EH DDC114YH DDC123JH DDC114EH	lı	_	_	0.36 0.18 1.8 0.88 3.6 0.88	mA	V _I = 5V
Output Current		I _{O(off)}	_	_	0.5	μΑ	$V_{CC} = 50V, V_I = 0V$
DC Current Gain	DDC124EH DDC144EH DDC143EH DDC114YH DDC123JH DDC114EH	Gı	56 68 20 68 80 30	_	_	_	Vo = 5V, Io = 5mA Vo = 5V, Io = 5mA Vo = 5V, Io = 10mA Vo = 5V, Io = 10mA Vo = 5V, Io = 10mA Vo = 5V, Io = 5mA
Gain-Bandwidth Product*		f _T	_	250	_	MHz	

^{*} Transistor - For Reference Only



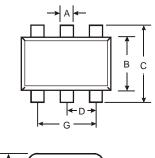
Typical Curves - DDC143EH

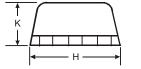


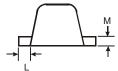


Package Outline Dimensions

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



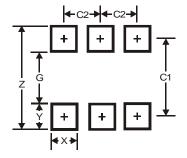




SOT563					
Dim	Min	Max	Тур		
Α	0.15	0.30	0.20		
В	1.10	1.25	1.20		
O	1.55	1.70	1.60		
D	-	-	0.50		
G	0.90	1.10	1.00		
Н	1.50	1.70	1.60		
K	0.55	0.60	0.60		
L	0.10	0.30	0.20		
M	0.10	0.18	0.11		
All Dimensions in mm					

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



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



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