

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

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	-50	V
Collector-Emitter Voltage	V _{CEO}	-50	V
Emitter-Base Voltage	V _{EBO}	-5	V
Collector Current - Continuous	I _C	-100	mA
Peak Pulse Collector Current	I _{CM}	-200	mA
Base Current	I _B	-30	mA

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

Characteristic	Symbol	Value	Unit
Power Dissipation	P _D	400	mW
		1000	
Thermal Resistance, Junction to Ambient	R _{θJA}	310	°C/W
		120	
Thermal Resistance, Junction to Lead	R _{θJL}	120	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

ESD Ratings (Note 9)

Characteristic	Symbol	Value	Unit	JEDEC Class
Electrostatic Discharge - Human Body Model	ESD HBM	4,000	V	3A
Electrostatic Discharge - Machine Model	ESD MM	400	V	C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS						
Collector-Base Breakdown Voltage	BV _{CBO}	-50	—	—	V	I _C = -10μA, I _E = 0
Collector-Emitter Breakdown Voltage (Note 9)	BV _{CEO}	-50	—	—	V	I _C = -1mA, I _B = 0
Emitter-Base Breakdown Voltage	BV _{EBO}	-5	—	—	V	I _E = -10μA, I _C = 0
Collector Cut-Off Current	I _{CBO}	—	—	-0.1	μA	V _{CB} = -50V, I _E = 0
Emitter Cut-Off Current	I _{EBO}	—	—	-0.1	μA	V _{EB} = -5V, I _C = 0
ON CHARACTERISTICS (Note 10)						
Collector-Emitter Saturation Voltage	V _{CE(sat)}	—	-0.15	-0.3	V	I _C = -100mA, I _B = -10mA
DC Current Gain	DP0150ALP4	120	—	240	—	V _{CE} = -6V, I _C = -2mA
	DP0150BLP4	200	—	400		
SMALL SIGNAL CHARACTERISTICS						
Transition Frequency	f _T	80	—	—	MHz	V _{CE} = -10V, I _E = -1mA f = 30MHz
Output Capacitance	C _{obo}	—	1.6	—	pF	V _{CB} = -10V, I _E = 0, f = 1MHz

- Notes:
- For the device mounted on minimum recommended pad layout 1oz copper that is on a single-sided 1.6mm FR4 PCB; device is measured under still air conditions whilst operating in steady state condition. The entire exposed collector pad is attached to the heatsink.
 - Same as Note 6, except the exposed collector pad is mounted on 25mm x 25mm 2oz copper.
 - Thermal resistance from junction to solder-point (on the exposed collector pad).
 - Refer to JEDEC specification JESD22-A114 and JESD22-A115.
 - Measured under pulsed conditions. Pulse width ≤ 300μs. Duty cycle ≤ 2%.

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

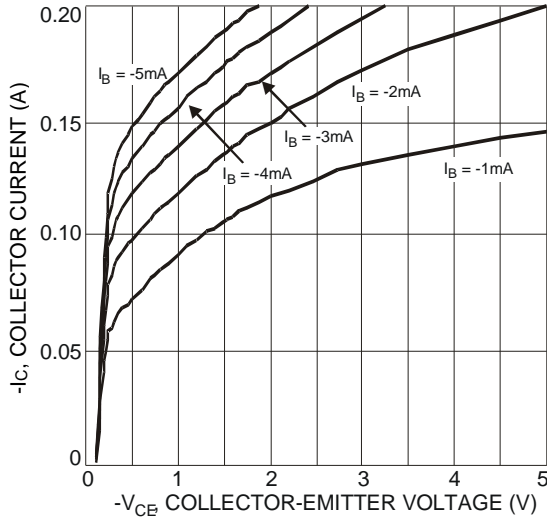


Fig. 1 Typical Collector Current vs. Collector-Emitter Voltage (DP0150BLP4)

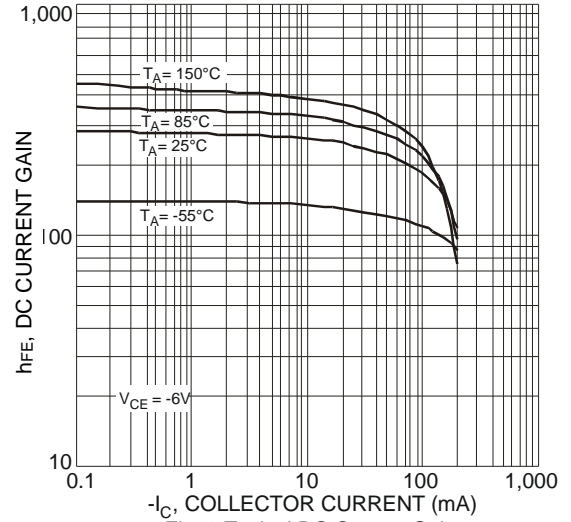


Fig. 2 Typical DC Current Gain vs. Collector Current (DP0150BLP4)

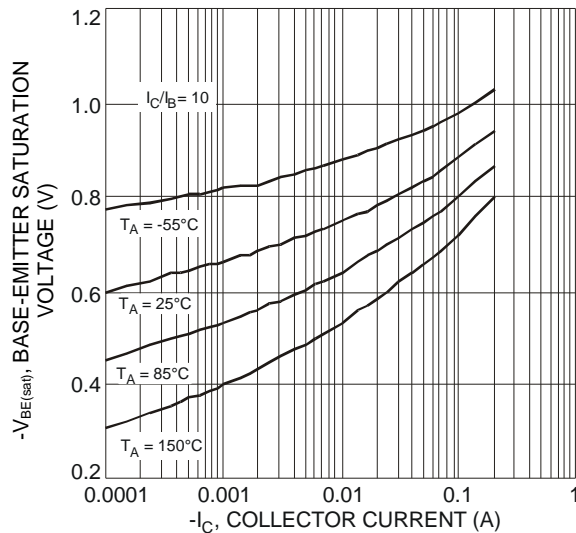


Fig. 3 Typical Base-Emitter Saturation Voltage vs. Collector Current

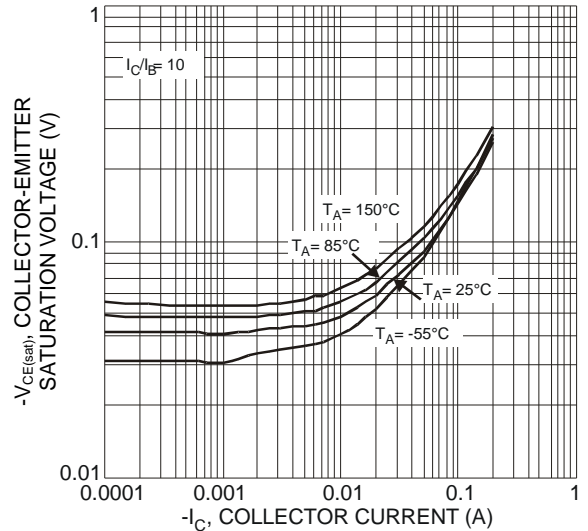


Fig. 4 Typical Collector-Emitter Saturation Voltage vs. Collector Current

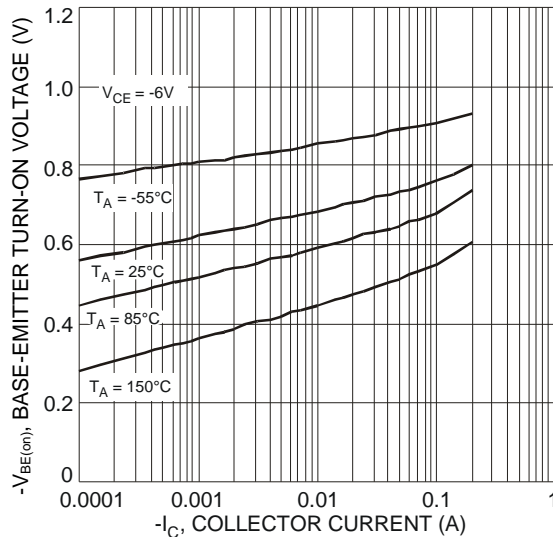


Fig. 5 Typical Base-Emitter Turn-On Voltage vs. Collector Current

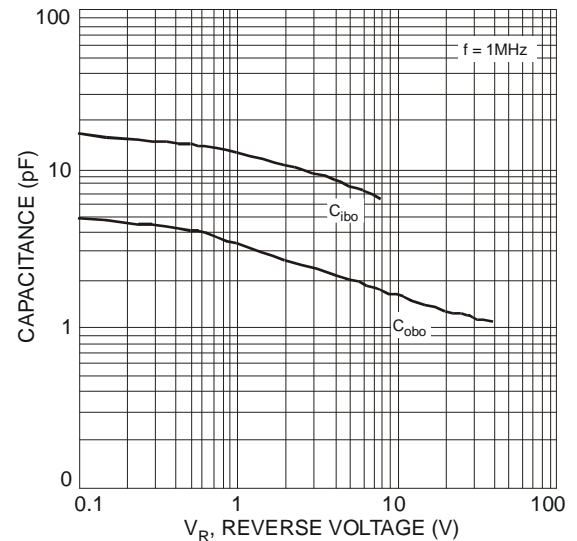


Fig. 6 Typical Capacitance Characteristics

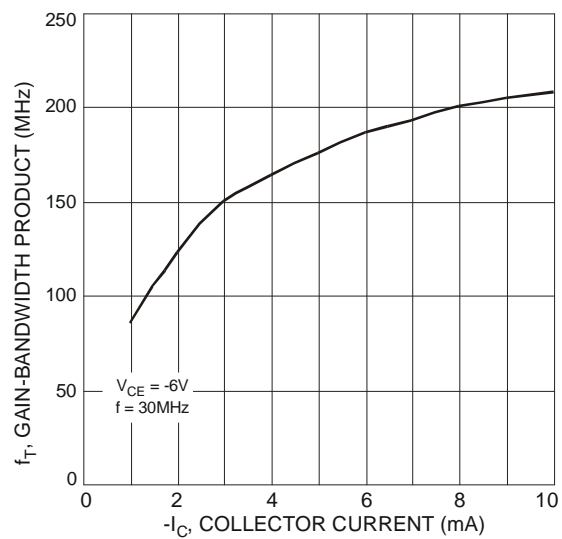
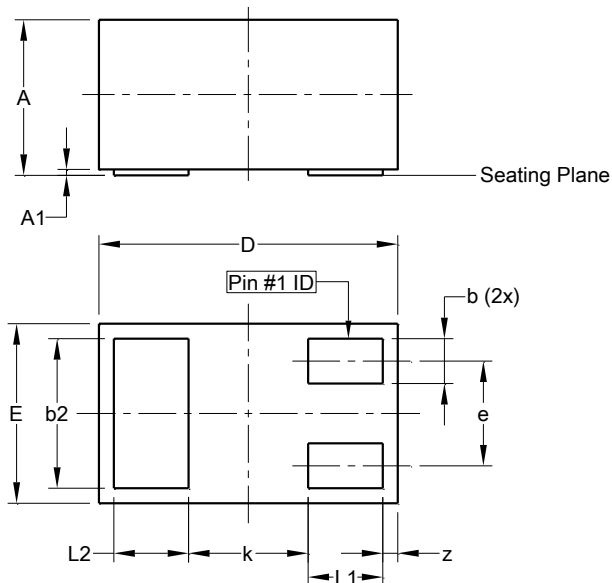


Fig. 7 Typical Gain-Bandwidth Product
vs. Collector Current

Package Outline Dimensions

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

X2-DFN1006-3

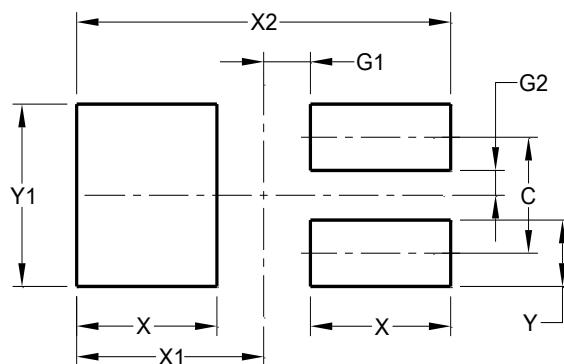


X2-DFN1006-3			
Dim	Min	Max	Typ
A	—	0.40	—
A1	0.00	0.05	0.03
b	0.10	0.20	0.15
b2	0.45	0.55	0.50
D	0.95	1.05	1.00
E	0.55	0.65	0.60
e	—	—	0.35
L1	0.20	0.30	0.25
L2	0.20	0.30	0.25
k	—	—	0.40
z	0.02	0.08	0.05
All Dimensions in mm			

Suggested Pad Layout

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

X2-DFN1006-3



Dimensions	Value (in mm)
C	0.350
G1	0.150
G2	0.075
X	0.450
X1	0.600
X2	1.200
Y	0.200
Y1	0.550

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