

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

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	-50	V
Collector-Emitter Voltage	V _{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5.0	V
Collector Current	Ic	-100	mA
Peak Collector Current	I _{CM}	-200	mA

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

Characteristic		Symbol	Value	Unit	
Power Dissipation	(Note 5)	P _D	400	mW	
Fower Dissipation	(Note 6)		1,000	IIIVV	
Thermal Resistance, Junction to Ambient	(Note 5)	$R_{ heta JA}$	310	°C/W	
	(Note 6)		120	C/VV	
Thermal Resistance, Junction to Lead	(Note 7)	$R_{ heta JL}$	120	°C/W	
Operating and Storage and Temperature Range		T _J , T _{STG}	-55 to +150	°C	

ESD Ratings (Note 8)

Characteristic	Symbol	Value	Unit	JEDEC Class
Electrostatic Discharge - Human Body Model	ESD HBM	4,000	V	3A
Electrostatic Discharge - Machine Model	ESD MM	200	V	В

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

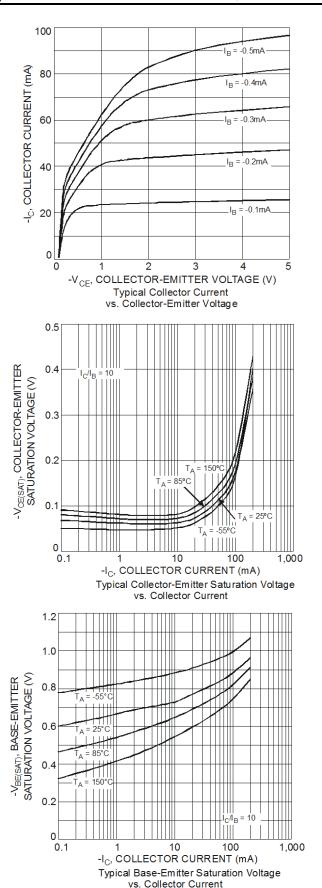
Characteristic	Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 9)					
Collector-Base Breakdown Voltage	BV _{CBO}	-50	_	V	$I_C = -50\mu A, I_E = 0$
Collector-Emitter Breakdown Voltage	BV _{CEO}	-40	_	V	$I_C = -1 \text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage	BV _{EBO}	-5.0	_	V	$I_E = -50 \mu A, I_C = 0$
Collector Cutoff Current		_	-100	nA	V _{CB} = -30V
Collector Cutoff Current	I _{CBO}		-5	μА	$V_{CB} = -30V, T_A = +150$ °C
Emitter Cutoff Current	I _{EBO}		-100	nA	$V_{EB} = -4.0V$
ON CHARACTERISTICS (Note 9)					
DC Current Gain	h _{FE}	120	270		$V_{CE} = -6.0V, I_{C} = -1.0mA$
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	_	-0.2	V	$I_C = -50 \text{mA}, I_B = -5.0 \text{mA}$
SMALL SIGNAL CHARACTERISTICS					
Output Capacitance	C _{obo}		5.0	pF	$V_{CB} = -12V$, $f = 1.0MHz$, $I_E = 0$
Current Gain-Bandwidth Product	f⊤	100	_	MHz	$V_{CE} = -12V, I_{C} = -2.0mA,$ f = 100MHz

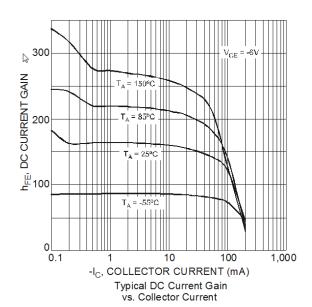
Notes:

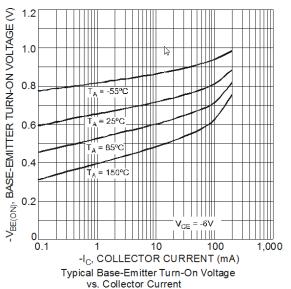
- 5. For the device mounted on minimum recommended pad layout 1oz copper that is on a single-sided 1.6mm FR4 PCB; device is measured under still air conditions whilst operating in steady state condition. The entire exposed collector pad is attached to the heatsink.
- 6. Same as Note 5, except the exposed collector pad is mounted on 25mm x 25mm 2oz copper.
- 7. Thermal resistance from junction to solder-point (on the exposed collector pad).
- 8. Refer to JEDEC specification JESD22-A114 and JESD22-A115.
- 9. Measured under pulsed conditions. Pulse width \leq 300 μ s. Duty cycle \leq 2%.



Typical Electrical Characteristics (@TA = +25°C, unless otherwise specified)



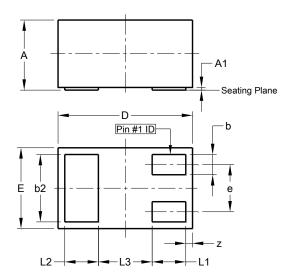






Package Outline Dimensions

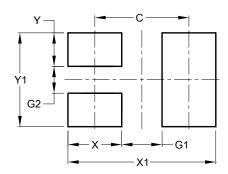
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



X1-DFN1006-3				
Dim	Min	Max	Тур	
Α	0.47	0.53	0.50	
A1	0.00	0.05	0.03	
b	0.10	0.20	0.15	
b2	0.45	0.55	0.50	
D	0.95	1.075	1.00	
Е	0.55	0.675	0.60	
е	1	-	0.35	
L1	0.20	0.30	0.25	
L2	0.20	0.30	0.25	
L3	-	-	0.40	
Z	0.02	0.08	0.05	
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)
С	0.70
G1	0.30
G2	0.20
X	0.40
X1	1.10
Y	0.25
Y1	0.70



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