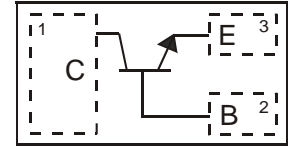


### Features

- Complementary PNP Type Available (2DA1774QLP)
- Ultra-Small Leadless Surface Mount Package
- **Lead Free By Design/RoHS Compliant (Note 1)**
- "Green" Device (Note 2)
- Qualified to AEC-Q101 Standards for High Reliability



BOTTOM VIEW


 TOP VIEW  
(Internal Schematic)

DFN1006-3

### Mechanical Data

- Case: DFN1006-3
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminal Connections Indicator: Collector Dot
- Terminals: Finish — NiPdAu over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Ordering Information: See Page 3
- Marking Information: See Page 3
- Weight: 0.0009 grams

### Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	50	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter-Base Voltage	$V_{EBO}$	5.0	V
Collector Current - Continuous	$I_C$	100	mA
Peak Collector Current	$I_{CM}$	200	mA

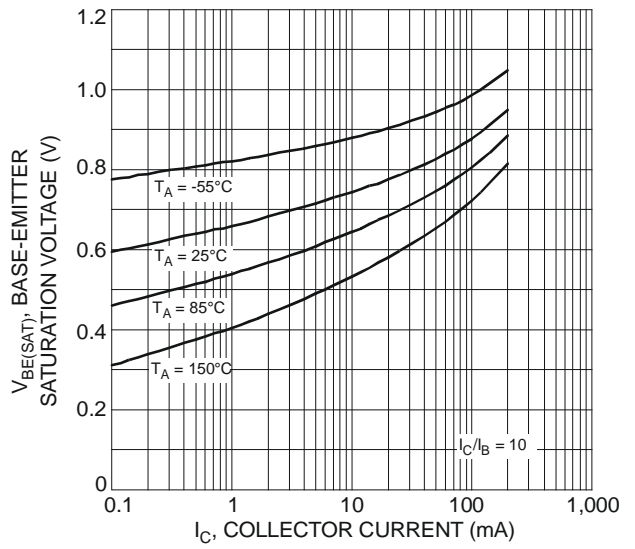
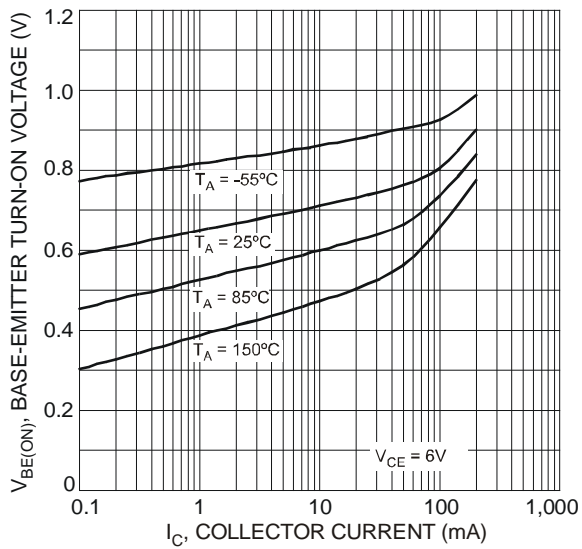
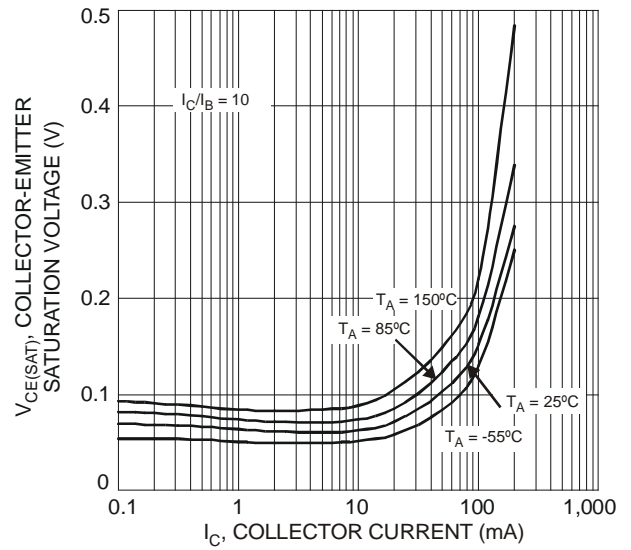
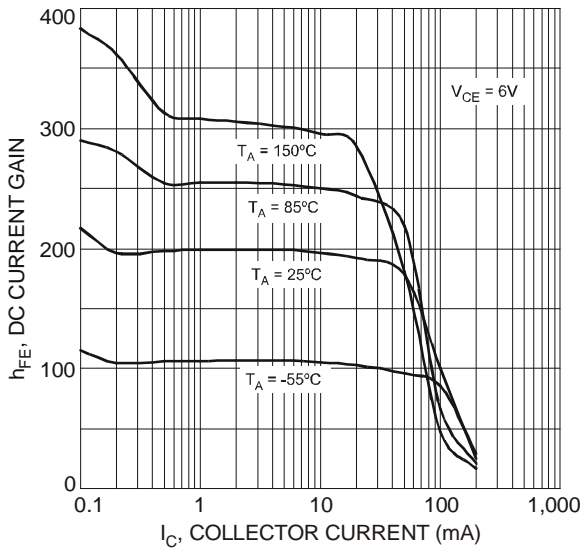
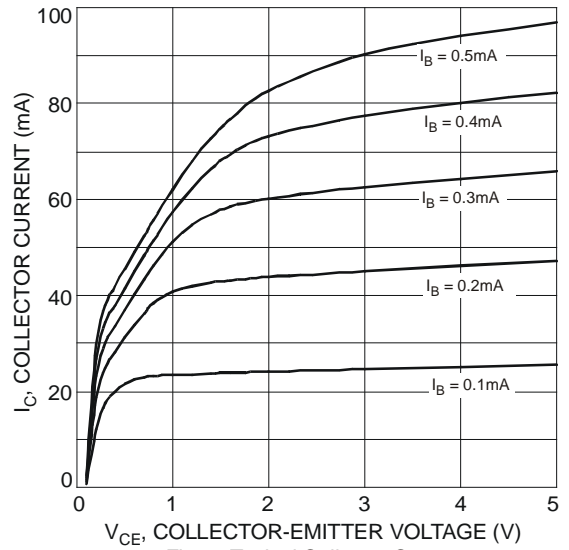
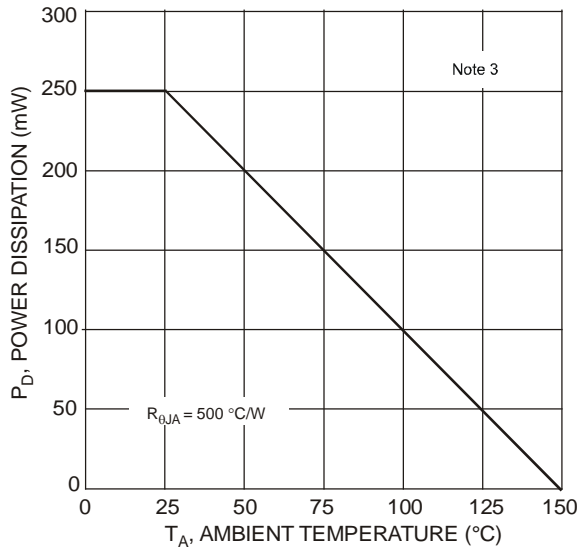
### Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation @ $T_A = 25^\circ\text{C}$ (Note 3)	$P_D$	250	mW
Thermal Resistance, Junction to Ambient @ $T_A = 25^\circ\text{C}$ (Note 3)	$R_{\theta JA}$	500	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

### Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
<b>OFF CHARACTERISTICS (Note 4)</b>					
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	50	—	V	$I_C = 50\mu\text{A}, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	50	—	V	$I_C = 1.0\text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5.0	—	V	$I_E = 50\mu\text{A}, I_C = 0$
Collector Cutoff Current	$I_{CBO}$	—	100	nA	$V_{CB} = 30\text{V}$
Emitter Cutoff Current	$I_{EBO}$	—	100	nA	$V_{CB} = 30\text{V}, T_A = 150^\circ\text{C}$
<b>ON CHARACTERISTICS (Note 4)</b>					
DC Current Gain	$h_{FE}$	120	270	—	$V_{CE} = 6.0\text{V}, I_C = 1.0\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	—	0.2	V	$I_C = 50\text{mA}, I_B = 5.0\text{mA}$
<b>SMALL SIGNAL CHARACTERISTICS</b>					
Output Capacitance	$C_{obo}$	—	3.5	pF	$V_{CB} = 12\text{V}, f = 1.0\text{MHz}, I_E = 0$
Current Gain-Bandwidth Product	$f_T$	100	—	MHz	$V_{CE} = 12\text{V}, I_C = 2.0\text{mA}, f = 100\text{MHz}$

- Notes:
1. No purposefully added lead.
  2. Diodes Inc.'s "Green" policy can be found on our website at [http://www.diodes.com/products/lead\\_free/index.php](http://www.diodes.com/products/lead_free/index.php).
  3. Part mounted on FR-4 PCB with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  4. Short duration pulse test used to minimize self-heating effect.



## Ordering Information (Note 5)

Device	Packaging	Shipping
2DC4617QLP-7	DFN1006-3	3000/Tape & Reel

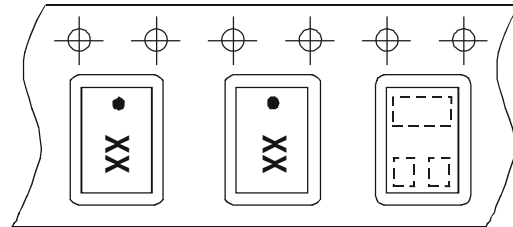
Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Marking Information



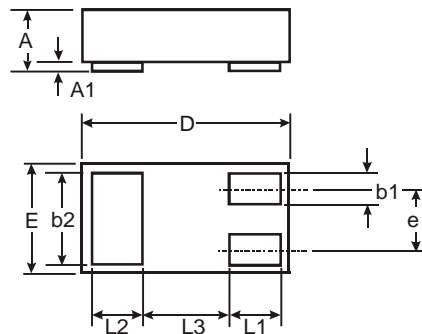
8D = Product Type Marking Code  
Dot Denotes Collector Side

DFN1006-3 Taping orientation



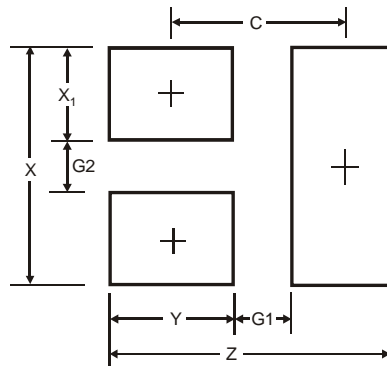
Direction of feed  
→

## Package Outline Dimensions



DFN1006-3			
Dim	Min	Max	Typ
A	0.47	0.53	0.50
A1	0	0.05	0.03
b1	0.10	0.20	0.15
b2	0.45	0.55	0.50
D	0.95	1.075	1.00
E	0.55	0.675	0.60
e	—	—	0.35
L1	0.20	0.30	0.25
L2	0.20	0.30	0.25
L3	—	—	0.40
All Dimensions in mm			

## Suggested Pad Layout



Dimensions	Value (in mm)
Z	1.1
G1	0.3
G2	0.2
X	0.7
X1	0.25
Y	0.4
C	0.7

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