

**BD675 SERIES**  
**NPN SILICON**  
**POWER DARLINGTON TRANSISTOR**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR BD675 Series types are NPN Silicon Darlington Power Transistors, available in the plastic TO-126 package, and are designed for audio and video output applications.



**MARKING: FULL PART NUMBER**

	SYMBOL	BD675	BD677	BD679	BD681	BD683	UNITS
		BD675A	BD677A	BD679A			
MAXIMUM RATINGS: (T <sub>C</sub> =25°C)							
Collector-Base Voltage	V <sub>CB0</sub>	45	60	80	100	120	V
Collector-Emitter Voltage	V <sub>CEO</sub>	45	60	80	100	120	V
Emitter-Base Voltage	V <sub>EBO</sub>			5.0			V
Continuous Collector Current	I <sub>C</sub>			4.0			A
Continuous Base Current	I <sub>B</sub>			100			mA
Power Dissipation	P <sub>D</sub>			40			W
Operating and Storage							
Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>			-65 to +150			°C
Thermal Resistance	θ <sub>JC</sub>			3.13			°C/W

**ELECTRICAL CHARACTERISTICS:** (T<sub>A</sub>=25°C unless otherwise noted)

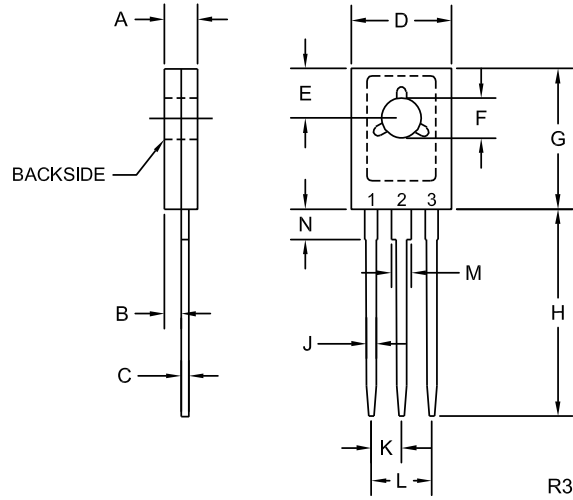
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I <sub>CBO</sub>	V <sub>CB</sub> =Rated V <sub>CB0</sub>		200	μA
I <sub>CBO</sub>	V <sub>CB</sub> =Rated V <sub>CB0</sub> , T <sub>C</sub> =100°C		2.0	mA
I <sub>CEO</sub>	V <sub>CE</sub> =½Rated V <sub>CEO</sub>		500	μA
I <sub>EBO</sub>	V <sub>EB</sub> =5.0V		2.0	mA
BV <sub>CEO</sub>	I <sub>C</sub> =50mA (BD675, BD675A)	45		V
BV <sub>CEO</sub>	I <sub>C</sub> =50mA (BD677, BD677A)	60		V
BV <sub>CEO</sub>	I <sub>C</sub> =50mA (BD679, BD679A)	80		V
BV <sub>CEO</sub>	I <sub>C</sub> =50mA (BD681)	100		V
BV <sub>CEO</sub>	I <sub>C</sub> =50mA (BD683)	120		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =1.5A, I <sub>B</sub> =30mA (Non-A)		2.5	V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =2.0A, I <sub>B</sub> =40mA (A)		2.8	V
V <sub>BE(ON)</sub>	V <sub>CE</sub> =3.0V, I <sub>C</sub> =1.5A (Non-A)		2.5	V
V <sub>BE(ON)</sub>	V <sub>CE</sub> =3.0V, I <sub>C</sub> =2.0A (A)		2.5	V
h <sub>FE</sub>	V <sub>CE</sub> =3.0V, I <sub>C</sub> =1.5A (Non-A)	750		
h <sub>FE</sub>	V <sub>CE</sub> =3.0V, I <sub>C</sub> =2.0A (A)	750		
h <sub>fe</sub>	V <sub>CE</sub> =3.0V, I <sub>C</sub> =1.5A, f=1.0MHz	1.0		

R1 (14-June 2010)

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**TO-126 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

- 1) Emitter
- 2) Collector
- 3) Base

**MARKING:**

**FULL PART NUMBER**

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.094	0.110	2.40	2.80
B	0.050		1.27	
C	0.015	0.030	0.38	0.75
D	0.291	0.335	7.40	8.50
E	0.148		3.75	
F	0.118	0.134	3.00	3.40
G	0.413	0.472	10.50	12.00
H	0.618		15.70	
J	0.024	0.035	0.62	0.90
K	0.089		2.25	
L	0.177		4.50	
M	0.045	0.055	1.14	1.40
N	0.083		2.10	

TO-126 (REV:R3)

R1 (14-June 2010)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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