

BD676 BD682
BD678 BD684
BD680

SILICON
PNP DARLINGTON
POWER TRANSISTORS



TO-126 CASE

Central
Semiconductor Corp.

www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR BD676 series are silicon PNP Darlington power transistors designed for audio and video output applications.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL	BD676	BD678	BD680	BD682	BD684	UNITS
Collector-Base Voltage	V_{CB0}	45	60	80	100	120	V
Collector-Emitter Voltage	V_{CEO}	45	60	80	100	120	V
Emitter-Base Voltage	V_{EBO}			5.0			V
Continuous Collector Current	I_C			4.0			A
Peak Collector Current	I_{CM}			6.0			A
Continuous Base Current	I_B			100			mA
Power Dissipation	P_D			40			W
Operating and Storage Junction Temperature	T_J, T_{stg}			-65 to +150			$^\circ\text{C}$
Thermal Resistance	θ_{JC}			3.12			$^\circ\text{C/W}$
Thermal Resistance	θ_{JA}			100			$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=\text{Rated } V_{CB0}$			200	μA
I_{CBO}	$V_{CB}=0.6\text{Rated } V_{CB0}, T_C=150^\circ\text{C}$			2.0	mA
I_{CEO}	$V_{CE}=\frac{1}{2}\text{Rated } V_{CEO}$			500	μA
I_{EBO}	$V_{EB}=5.0\text{V}$			5.0	mA
BV_{CEO}	$I_C=50\text{mA}$ (BD676)	45			V
BV_{CEO}	$I_C=50\text{mA}$ (BD678)	60			V
BV_{CEO}	$I_C=50\text{mA}$ (BD680)	80			V
BV_{CEO}	$I_C=50\text{mA}$ (BD682)	100			V
BV_{CEO}	$I_C=50\text{mA}$ (BD684)	120			V
$V_{CE(SAT)}$	$I_C=1.5\text{A}, I_B=6.0\text{mA}$ (BD676: $I_C=2.0\text{A}$)			2.5	V
$V_{BE(ON)}$	$V_{CE}=3.0\text{V}, I_C=1.5\text{A}$ (BD676: $I_C=2.0\text{A}$)			2.5	V
h_{FE}	$V_{CE}=3.0\text{V}, I_C=1.5\text{A}$ (BD676: $I_C=2.0\text{A}$)	750			
h_{fe}	$V_{CE}=3.0\text{V}, I_C=1.5\text{A},$ $f=1.0\text{MHz}$ (BD676: $I_C=2.0\text{A}$)	10			
f_{hfe}	$V_{CE}=3.0\text{V}, I_C=1.5\text{A}$ (BD676: $I_C=2.0\text{A}$)		60		kHz
$I_{(SB)}$	$V_{CE}=50\text{V}, t_p=20\text{ms}$	0.8			A
$I_{(SB)}$	$V_{CE}=40\text{V}, t_p=20\text{ms}$ (BD676)	1.0			A
t_{on}	$V_{CC}=30\text{V}, I_{Con}=1.5\text{A}$		0.3	1.5	μs
t_{off}	$I_{Bon}=I_{Boff}=6.0\text{mA}$		1.5	5.0	μs

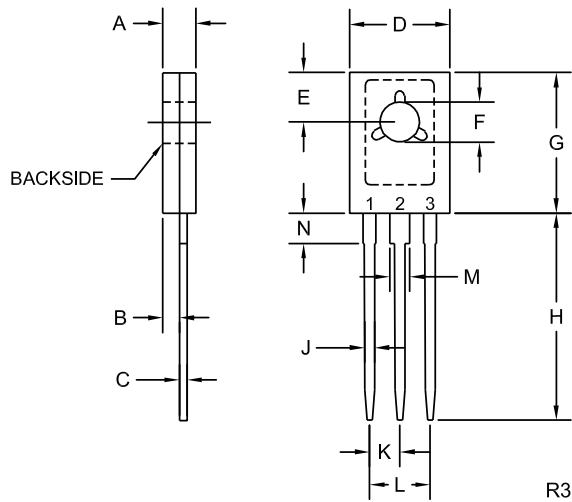
R1 (13-March 2014)

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TO-126 CASE - MECHANICAL OUTLINE



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)

LEAD CODE:

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

MARKING: FULL PART NUMBER

R1 (13-March 2014)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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

DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2nd 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

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).

CONTACT US

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