

**Plastic-EncapsulateDarlingtonTransistors**
**APPLICATION**

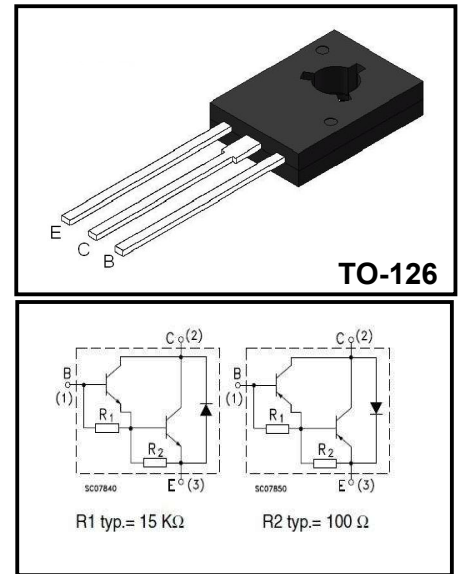
◆Linear and switching industrial equipment.

**DESCRIPTION**

The BD675, BD675A, BD677, BD677A, BD679, BD679A and BD681 are silicon epitaxial-base NPN power transistors in monolithic Darlington configuration mounted in TO-126 plastic package.

They are intended for use in medium power linear and switching applications.

The complementary PNP types are BD676, BD676A, BD678, BD678A, BD680, BD680A and BD682 respectively.

**Absolute Maximum Ratings (Ta=25°C)**


Symbol	Parameter	Value				Unit	
		NPN	BD675/A	BD677/A	BD679/A		BD681
BV <sub>CBO</sub>	Collector-Base Voltage		45	60	80	100	V
BV <sub>CEO</sub>	Collector-Emitter Voltage		45	60	80	100	V
BV <sub>EBO</sub>	Emitter-Base Voltage		5				V
I <sub>CM</sub>	Collector Current		4				A
P <sub>D</sub>	Collector Power Dissipation		40				W
T <sub>j</sub> , T <sub>stg</sub>	Junction Temperature Storage Temperature		- 55 ~ + 150				°C

**Electrical Characteristics (Ta=25°C)**

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I <sub>CBO</sub>	Collector Cut-off Current (I <sub>E</sub> = 0)	V <sub>CE</sub> = rated V <sub>CBO</sub> V <sub>CE</sub> = rated V <sub>CBO</sub> T <sub>C</sub> = 100 °C			0.2 2	mA
I <sub>CEO</sub>	Collector Cut-off Current (I <sub>B</sub> = 0)	V <sub>CE</sub> = half rated V <sub>CEO</sub>			0.5	mA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = 5 V			2	mA
BV <sub>CEO</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 50 mA for <b>BD675/675A/676/676A</b> for <b>BD677/677A/678/678A</b> for <b>BD679/679A/680/680A</b> for <b>BD681/682</b>	45 60 80 100			V
BV <sub>CBO</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 1 mA for <b>BD675/675A/676/676A</b> for <b>BD677/677A/678/678A</b> for <b>BD679/679A/680/680A</b> for <b>BD681/682</b>	45 60 80 100			V
H <sub>FE</sub> *	DC Current Gain	for <b>BD675/677/678/679/680/681/682</b> I <sub>C</sub> = 1.5 A V <sub>CE</sub> = 3 V for <b>BD675A/677A/678A/679A/680A</b> I <sub>C</sub> = 2 A V <sub>CE</sub> = 3 V	750 750			
V <sub>CESAT</sub> *	Collector-Emitter Saturation Voltage	for <b>BD677/678/679/680/681/682</b> I <sub>C</sub> = 1.5 A I <sub>B</sub> = 30 mA for <b>BD677A/678A/679A/680A</b> I <sub>C</sub> = 2 A I <sub>B</sub> = 40 mA			2.5 2.8	V
V <sub>BE</sub> *	Base-Emitter Voltage	for <b>BD675/677/678/679/680/681/682</b> I <sub>C</sub> = 1.5 A V <sub>CE</sub> = 3 V for <b>BD675A/677A/678A/679A/680A</b> I <sub>C</sub> = 2 A V <sub>CE</sub> = 3 V			2.5 2.5	V

\* Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %

**Package Dimensions**

**TO-126**

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.40	2.80	0.094	0.110
A1	1.00	1.40	0.039	0.055
b	0.66	0.86	0.026	0.034
b1	1.17	1.37	0.046	0.054
c	0.40	0.60	0.016	0.024
D	7.30	7.70	0.287	0.303
E	10.60	11.00	0.417	0.433
e	2.25	2.33	0.089	0.092
e1	4.50	4.66	0.177	0.183
L	14.00	15.00	0.551	0.591
L1	1.90	2.50	0.075	0.098
Φ	3.10	3.30	0.122	0.130

**ORDERING INFORMATION**

Package	Packing Method	Pack
TO-126	Bulk	500PCS/bag