Plastic Medium-Power Silicon NPN Darlingtons

€m/

BD675G, BD675AG, BD677G, **BD677AG**, **BD679G, BD679AG, BD681G**

This series of plastic, medium power silicon NPN Darlington transistors can be used as output devices in complementary general purpose amplifier applications.

Features

High DC Current Gain Monolithic Construction Complementary to BD676, 676A, 678, 678A, 680, 680A, 682 BD677, 677A, 679, 679A are Equivalent to MJE 800, 801, 802, 803 These Devices are Pb Free and are RoHS Compliant*

MAXIMUM RATINGS

Rating

SymbolValueUM RA8 Tm47.39 BD675G, BD675AG BD677G, BD677AG BD679G, BD679AG BD681G

	V _{CBO}	45 60 80 100	Vd
Emitter-Base Voltage	V _{EBO}	5.0	Vdc
Collector Current	۱ _C	4.0	Adc
Base Current	Ι _Β	1.0	Adc
Total Device Dissipation @ $T_C = 25 C$ Derate above 25 C	P _D	40 0.32	W W/ C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-55 to +150	С

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction–to–Case	$R_{ extsf{ heta}JC}$	3.13	C/W



TO-225 CASE 77-09 STYLE 1



BD675G, BD675AG, BD677G, BD677AG, BD679G, BD679AG, BD681G

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS	·			
	BV _{CEO}	45 60 80 100	- - - -	Vdc
Collector Cutoff Current (V_{CE} = Half Rated V_{CEO} , I_B = 0)	I _{CEO}	_	500	μAdc
Collector Cutoff Current (V_{CB} = Rated BV _{CEO} , I _E = 0) (V_{CB} = Rated BV _{CEO} , I _E = 0, T _C = 100 C)	I _{CBO}		0.2 2.0	mAdc
Emitter Cutoff Current ($V_{BE} = 5.0 \text{ Vdc}, I_C = 0$)	I _{EBO}	-	2.0	mAdc
ON CHARACTERISTICS	·			
$ \begin{array}{l} \text{DC Currert Gain, (Note 1)} \\ (I_{C} = 1.5 \ \text{Adc}, V_{CE} = 3.0 \ \text{Vdc}) \\ \text{BD675G, BD677G, BD679G, BD681G} \\ (I_{C} = 2.0 \ \text{Adc}, \ V_{CE} = 3.0 \ \text{Vdc}) \\ \text{BD675AG, BD677AG, BD679AG} \end{array} $	h _{FE}	750 750		_
	V _{CE(sat)}	-	2.5 2.8	Vdc
$\begin{array}{l} \text{Base-Emitter On Voltage, (Note 1)} \\ (I_{C} = 1.5 \ \text{Adc}, \ V_{CE} = 3.0 \ \text{Vdc}) \\ \text{BD677G, BD679G, BD681G} \\ (I_{C} = 2.0 \ \text{Adc}, \ V_{CE} = 3 \ 0 \ \text{Vdc}) \\ \text{BD675AG, BD677AG, BD679AG} \end{array}$	V _{BE(on)}	-	2.5 2.5	Vdc
DYNAMIC CHARACTERISTICS	•			
Small Signal Current Gain ($I_C = 1.5$ Adc, $V_{CE} = 3.0$ Vdc, f = 1.0 MHz)	h _{fe}	1.0	_	-

There are two limitations on the power handling ability of a transistor average junction temperature and secondary breakdown. Safe operating area curves indicate $I_C - V_{CE}$ limits of the transistor that must be observed for reliable operation; e.g., the transistor must not be subjected to greater dissipation than the curves indicate.

At high case temperatures, thermal limitations will reduce the power that can be handled to values less than the TO-225 CASE 77-09 ISSUE AD

DATE 25 MAR 2015

YWW ΧХ XXXXXG

Y = Year WW = Work Week XXXXX = Device Code G G

S LE 1: PIN 1. 2., 4. 3.	emi er Collec or Base	 S LE 2: PIN 1. CA HOI 2., 4. ANODE 3. GA E 	\$ LE 3: DE PIN 1. 2., 4. 3.	BASE COLLEC OR EMI ER	S LE 4: PIN 1. 2., 4. 3.	ANODE 1 ANODE 2 GA E	S LE 5: PIN 1. M 1 2., 4. M 2 3. GA E	-
\$ LE 6 PIN 1. 2., 4. 3.	CA HODE GA E ANODE	\$ LE 7: PIN 1. M 1 2., 4. GA E 3. M 2	\$ LE 8: PIN 1. 2., 4. 3.	SO RCE GA E DRAIN	S LE 9: PIN 1. 2., 4. 3.	GA E DRAIN SO RCE	S LE 10: PIN 1. SO I 2., 4. DRAI 3. GA E	RCE N

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