Plastic Medium-Power Silicon NPN Darlingtons

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

Features

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
		BD675G, BD675AG BD677G, BD677AG BD679G, BD679AG BD681G	
	V_{CBO}	**45 60 80 100**	**Vd**
Emitter−Base Voltage	V_{EBO}	5.0	Vdc
Collector Current	I_C	4.0	Adc
Base Current	I_B	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	C

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	$R_{\theta JC}$	3.13	C/W

ELECTRICAL CHARACTERISTICS (T_C = 25 C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector−Emitter Breakdown Voltage, (Note 1) (I_C = 50 mAdc, I_B = 0) BD675G, BD675AG BD677G, BD677AG BD679G, BD679AG BD681G	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 Vdc, I_C = 0)	I_{EBO}	−	2.0	mAdc
ON CHARACTERISTICS				
DC Currert Gain, (Note 1) (I_C = 1.5 Adc,V_{CE} = 3.0 Vdc) BD675G, BD677G, BD679G, BD681G (I_C = 2.0 Adc, V_{CE} = 3.0 Vdc) BD675AG, BD677AG, BD679AG	h_{FE}	 750 750	 − −	−
Collector−Emitter Saturation Voltage, (Note 1) (I_C = 1.5 Adc, I_B = 30 mAdc) BD677G, BD679G, BD681G (I_C = 2.0 Adc, I_B = 40 mAdc) BD675AG, BD677AG, BD679AG	$V_{CE(sat)}$	 − −	 2.5 2.8	Vdc
Base−Emitter On Voltage, (Note 1) (I_C = 1.5 Adc, V_{CE} = 3.0 Vdc) BD677G, BD679G, BD681G (I_C = 2.0 Adc, V_{CE} = 3 0 Vdc) BD675AG, BD677AG, BD679AG	$V_{BE(on)}$	 − −	 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	−	−

TO−225
CASE 77−09
ISSUE AD

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

S LE 1:
PIN 1. EMI ER
2., 4. COLLEC OR
3. BASE

S LE 2:
PIN 1. CA HODE
2., 4. ANODE
3. GA E

S LE 3:
PIN 1. BASE
2., 4. COLLEC OR
3. EMI ER

S LE 4:
PIN 1. ANODE 1
2., 4. ANODE 2
3. GA E

S LE 5:
PIN 1. M 1
2., 4. M 2
3. GA E

S LE 6:
PIN 1. CA HODE
2., 4. GA E
3. ANODE

S LE 7:
PIN 1. M 1
2., 4. GA E
3. M 2

S LE 8:
PIN 1. SO RCE
2., 4. GA E
3. DRAIN

S LE 9:
PIN 1. GA E
2., 4. DRAIN
3. SO RCE

S LE 10:
PIN 1. SO RCE
2., 4. DRAIN
3. GA E