

SILICON PNP POWER DARLINGTON TRANSISTOR

- SGS-THOMSON PREFERRED SALESTYPE
- PNP DARLINGTON
- INTEGRATED ANTIPARALLEL COLLECTOR-EMITTER DIODE

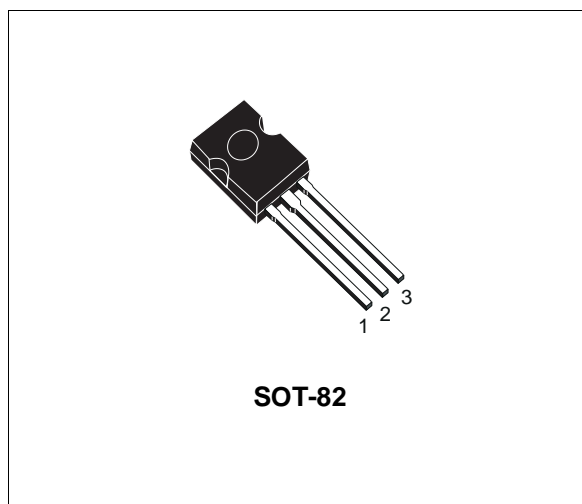
APPLICATIONS

- GENERAL PURPOSE SWITCHING
- GENERAL PURPOSE AMPLIFIERS

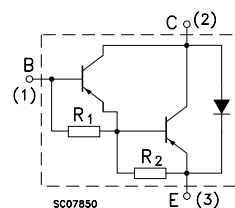
DESCRIPTION

The BD336 is a silicon epitaxial-base PNP transistor in Darlington configuration mounted in SOT-82 plastic package.

It is intended for use in audio output stages general amplifier and switching applications.



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	-100	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	-100	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	-5	V
I_C	Collector Current	-6	A
I_{CM}	Collector Peak Current ($t_p < 10\text{ms}$)	-10	A
I_B	Base Current	-0.15	A
P_{tot}	Total Dissipation at $T_c \leq 25^\circ\text{C}$	60	W
T_{stg}	Storage Temperature	-65 to 150	$^\circ\text{C}$
T_j	Max. Operating Junction Temperature	150	$^\circ\text{C}$

THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	2.08	$^{\circ}C/W$
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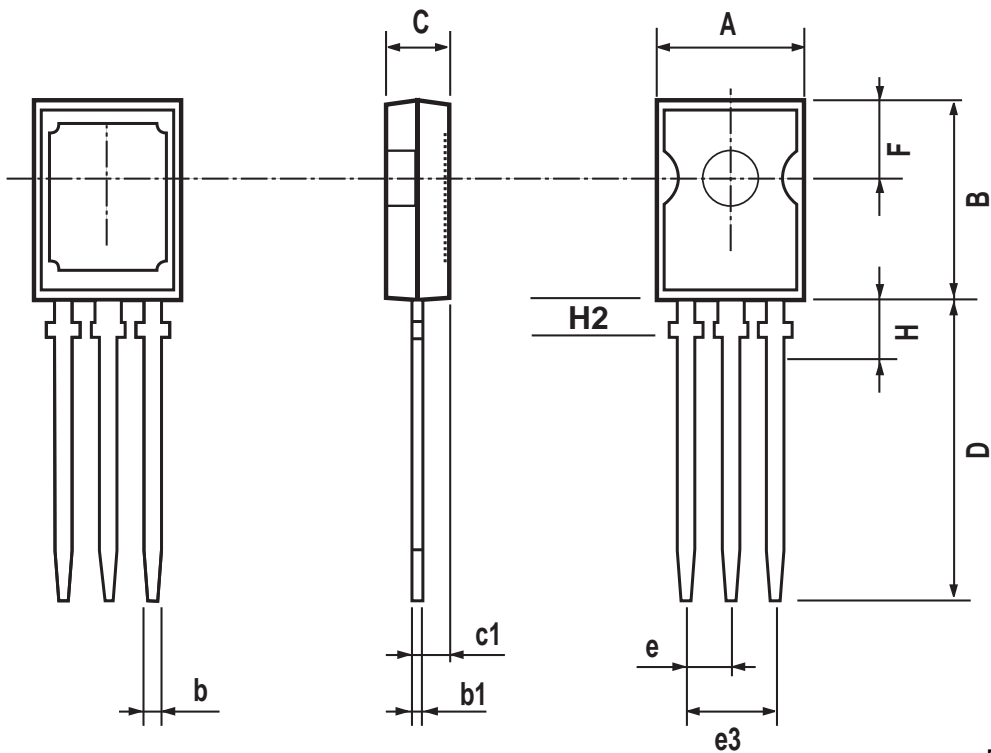
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current ($I_E = 0$)	$V_{CB} = -100 V$ $V_{CB} = -100 V \quad T_C = 150^{\circ}C$			-0.2 -2	mA mA
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = -50 V$			-0.5	mA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = -5 V$			-5	mA
$V_{CE(sat)*}$	Collector-Emitter Saturation Voltage	$I_C = -3 A \quad I_B = -12 mA$			-2	V
V_{BE*}	Base-Emitter Voltage	$I_C = -3 A \quad V_{CE} = -3 V$			-2.5	V
h_{FE*}	DC Current Gain	$I_C = -0.5 A \quad V_{CE} = -3 V$ $I_C = -3 A \quad V_{CE} = -3 V$ $I_C = -6 A \quad V_{CE} = -3 V$	750	2700 400		
V_F*	Parallel Diode Forward Voltage	$I_F = -3 A$		-1.8		V
h_{fe}	Small Signal Current Gain	$I_C = -3 A \quad V_{CE} = -3 V \quad f = 1MHz$		150		
t_{on}	Turn on Time	$I_C = -3 A \quad V_{CC} = -30 V$		1	2	μs
t_{off}	Turn off Time	$I_{B1} = -I_{B2} = -12 mA$		5	10	μs

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

SOT-82 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	7.4		7.8	0.291		0.307
B	10.5		10.8	0.413		0.444
b	0.7		0.9	0.028		0.035
b1	0.49		0.75	0.019		0.030
C	2.4		2.7	0.04		0.106
c1	1.0		1.3	0.039		0.05
D	15.4		16	0.606		0.629
e		2.2			0.087	
e3	4.15		4.65	0.163		0.183
F		3.8			0.150	
H			2.54		0.100	
H2		2.15			0.084	



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