

SILICON PNP POWER DARLINGTON TRANSISTOR

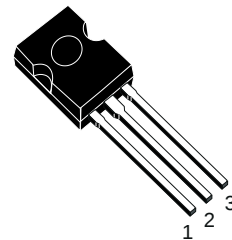
- SGS-THOMSON PREFERRED SALESTYPE
- PNP DARLINGTON
- INTEGRATED ANTIPARALLEL COLLECTOR-EMITTER DIODE

APPLICATION

- GENERAL PURPOSE SWITCHING

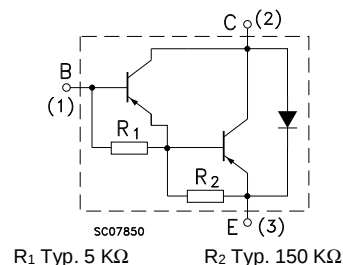
DESCRIPTION

The SGS125 is a silicon epitaxial-base PNP transistor in monolithic Darlington configuration in SOT82 plastic package, intended for use in power linear and switching applications.



SOT-82

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	- 60	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	- 60	V
V_{EBO}	Base-Emitter Voltage ($I_C = 0$)	- 5	V
I_C	Collector Current	- 5	A
I_{CM}	Collector Peak Current	- 8	A
I_B	Base Current	- 0.1	A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25\text{ }^{\circ}\text{C}$ $T_{amb} \leq 25\text{ }^{\circ}\text{C}$	65 2	W W
T_{stg}	Storage Temperature	-65 to 150	$^{\circ}\text{C}$
T_j	Max Operating Junction Temperature	150	$^{\circ}\text{C}$

THERMAL DATA

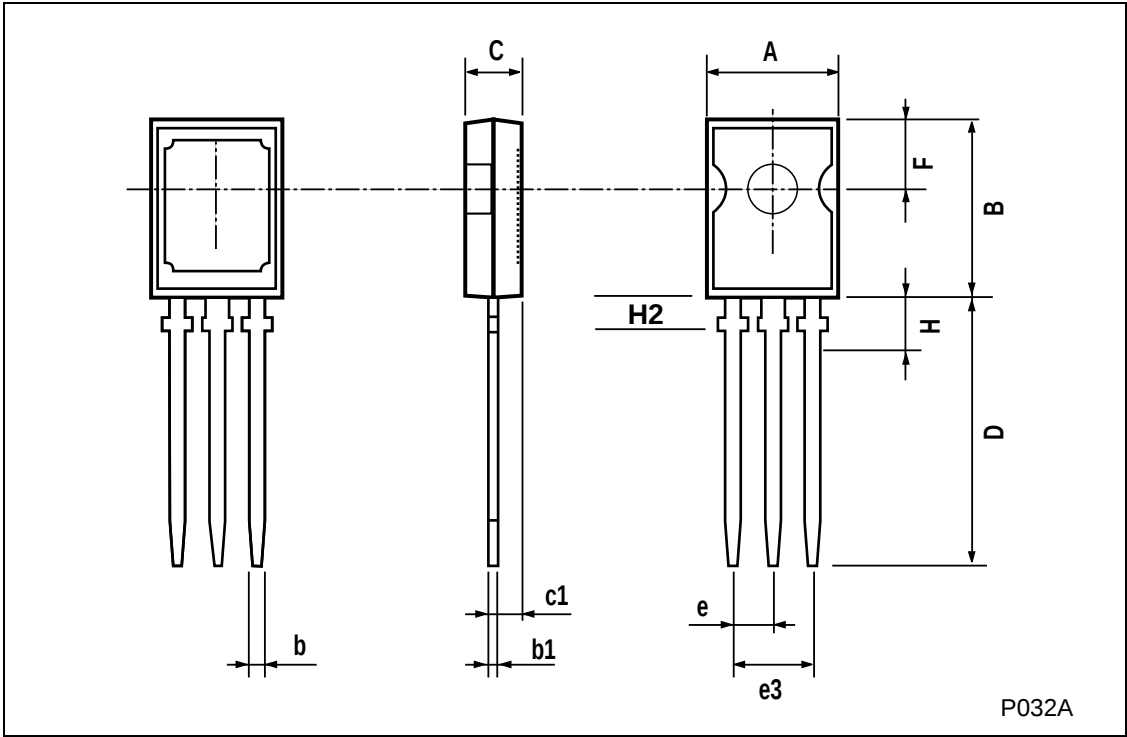
$R_{thj-case}$	Thermal Resistance Junction-case	Max	1.92	$^{\circ}C/W$
$R_{thj-amb}$	Thermal Resistance Junction-ambient	Max	62.5	$^{\circ}C/W$

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = -30 V$				- 0.5	mA
I_{CBO}	Collector Cut-off Current ($I_E = 0$)	$V_{CB} = -60 V$				- 0.2	mA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = -5 V$				- 2	mA
$V_{CEO(sus)}^*$	Collector-Emitter Sustaining Voltage ($I_B = 0$)	$I_C = -30 mA$		- 60			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = -3 A$	$I_B = -12 mA$			- 2	V
		$I_C = -5 A$	$I_B = -20 mA$			- 4	V
$V_{BE(on)}^*$	Base-Emitter Voltage	$I_C = -3 A$	$V_{CE} = -3 V$			- 2.5	V
h_{FE}^*	DC Current Gain	$I_C = -0.5 A$	$V_{CE} = -3 V$	1000			
		$I_C = -3 A$	$V_{CE} = -3 V$	1000			

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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