SGS-THOMSON MICROELECTRONICS

SGS125

SILICON PNP POWER DARLINGTON TRANSISTOR

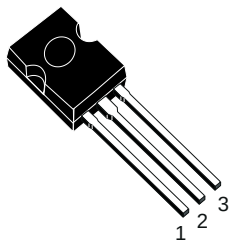
- SGS-THOMSON PREFERRED SALESTYPE
- PNP DARLINGTON
- INTEGRATED ANTIPARALLEL COLLECTOR-EMITTER DIODE

APPLICATION

- GENERAL PURPOSE SWITCHING

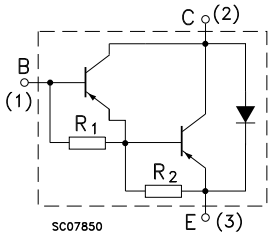
DESCRIPTION

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



SOT-82

INTERNAL SCHEMATIC DIAGRAM



R_1 Typ. 5 KΩ R_2 Typ. 150 KΩ

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 $T_{case} \leq 25\ ^oC$ $T_{amb} \leq 25\ ^oC$	65 2	W W
T_{stg}	Storage Temperature	-65 to 150	^oC
T_j	Max Operating Junction Temperature	150	^oC

THERMAL DATA

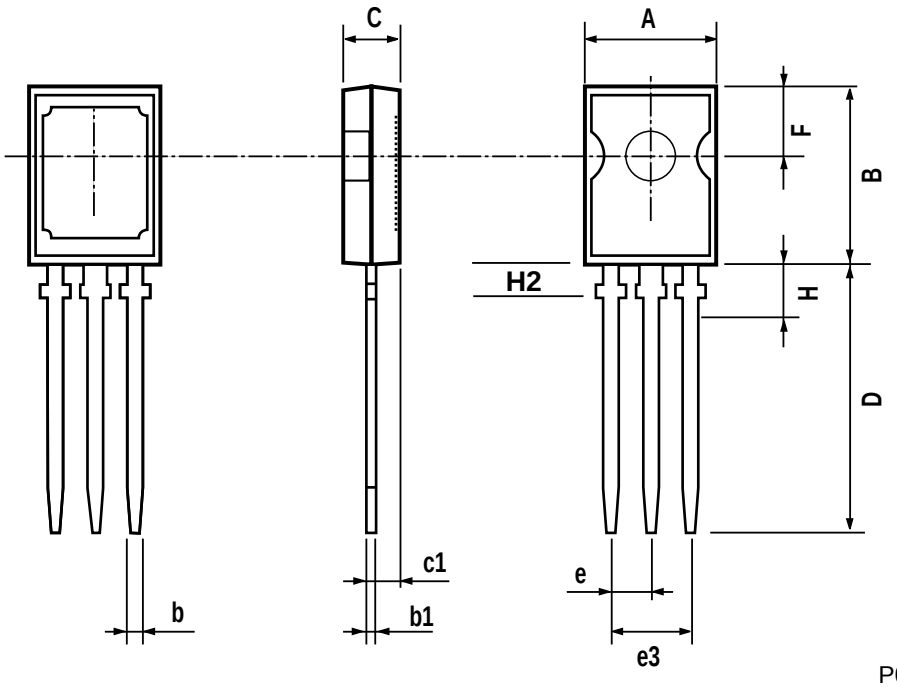
$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	1.92	$^oC/W$
$R_{thj\text{-}amb}$	Thermal Resistance Junction-ambient	Max	62.5	$^oC/W$

ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^oC 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_C = - 5 A	I_B = -12 mA I_B = - 20 mA			- 2 - 4	V 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 I_C = - 3 A	V_{CE} = - 3 V V_{CE} = - 3 V	1000 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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