SGS-THOMSON MICROELECTRONICS

MJE5852

HIGH VOLTAGE PNP POWER TRANSISTOR

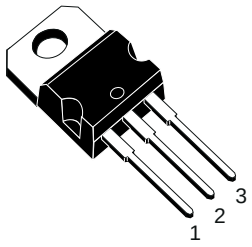
- SGS-THOMSON PREFERRED SALESTYPE
- PNP TRANSISTOR
- HIGH VOLTAGE CAPABILITY

APPLICATIONS:
- SWITCHING REGULATORS
- MOTOR CONTROL
- INVERTERS

DESCRIPTION

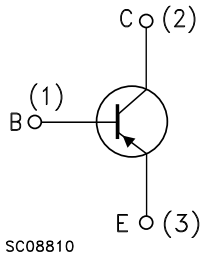
The MJE5852 is manufactured using high voltage PNP multiepitaxial technology for high switching speed and high voltage capability.

It is intended for use in high frequency and efficiency converters, switching regulators and motor control.



TO-220

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CES}	Collector-Emitter Voltage (V_{BE} = 0)	450	V
V_{CEO}	Collector-Emitter Voltage (I_B = 0)	400	V
V_{EBO}	Emitter-Base Voltage (I_C = 0)	7	V
I_C	Collector Current	8	A
I_{CM}	Collector Peak Current (t_p < 5ms)	16	A
I_B	Base Current	4	A
I_{BM}	Base Peak Current (t_p < 5ms)	8	A
P_{tot}	Total Dissipation at $T_c \leq 25\ ^oC$	80	W
T_{stg}	Storage Temperature	-65 to 150	^oC
T_j	Max. Operating Junction Temperature	150	^oC

For PNP type voltage and current values are negative.

THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	1.56	$^oC/W$
$R_{thj\text{-}amb}$	Thermal Resistance Junction-ambient	Max	62.5	$^oC/W$

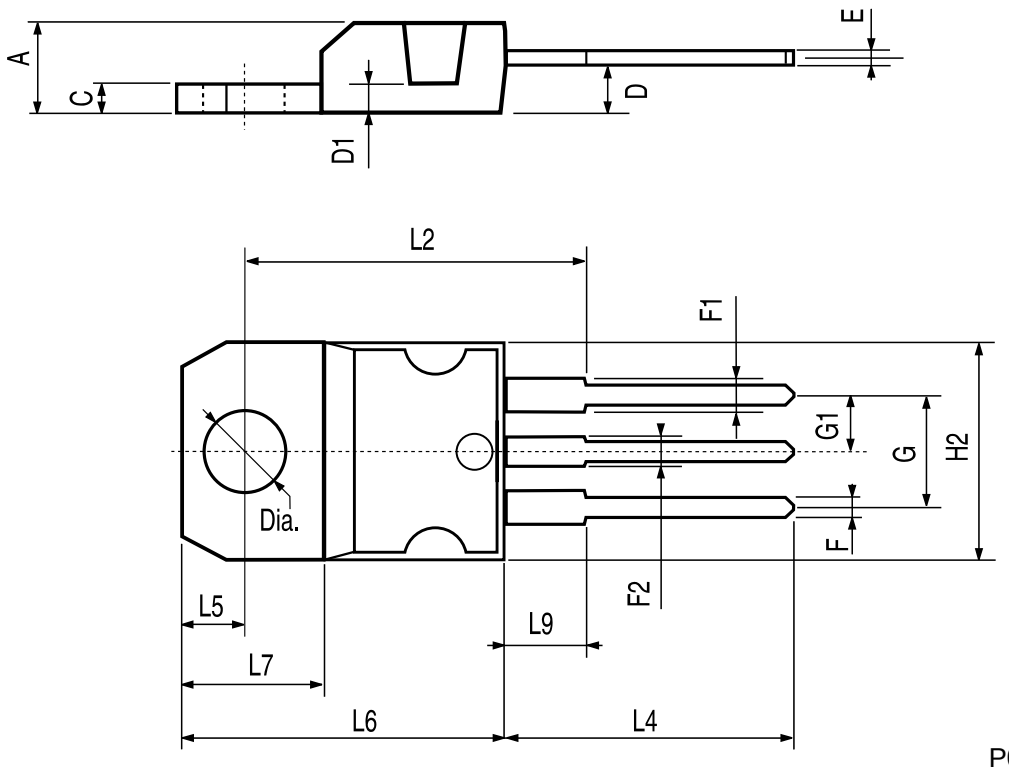
ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^oC unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector Cut-off Current (V_{BE} = -1.5V)	V_{CE} = 450 V			500	µA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	V_{EB} = 6 V			1	mA
$V_{CEO(sus)}$*	Collector-Emitter Sustaining Voltage (I_B=0)	I_C = 10 mA	400			V
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = 4 A I_B = 1 A I_C = 8 A I_B = 3 A			2 5	V V
$V_{BE(sat)}$*	Base-Emitter Saturation Voltage	I_C = 4 A I_B = 1 A			1.5	V
h_{FE}*	DC Current Gain	I_C = 2 A V_{CE} = 5 V I_C = 5 A V_{CE} = 5 V	15 5			
t_s t_f	RESISTIVE LOAD Storage Time Fall Time	I_C = 4 A V_{CC} = 250 V I_{B1} = -I_{B2} = 1 A t_p = 40 µs			2 0.5	µs µs

∗ Pulsed: Pulse duration = 300 µs, duty cycle 1.5 %
For PNP type voltage and current values are negative.

TO-220 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.40		4.60	0.173		0.181
C	1.23		1.32	0.048		0.051
D	2.40		2.72	0.094		0.107
D1		1.27			0.050	
E	0.49		0.70	0.019		0.027
F	0.61		0.88	0.024		0.034
F1	1.14		1.70	0.044		0.067
F2	1.14		1.70	0.044		0.067
G	4.95		5.15	0.194		0.203
G1	2.4		2.7	0.094		0.106
H2	10.0		10.40	0.393		0.409
L2		16.4			0.645	
L4	13.0		14.0	0.511		0.551
L5	2.65		2.95	0.104		0.116
L6	15.25		15.75	0.600		0.620
L7	6.2		6.6	0.244		0.260
L9	3.5		3.93	0.137		0.154
DIA.	3.75		3.85	0.147		0.151



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