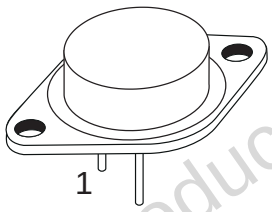
MJ802

SILICON NPN POWER TRANSISTOR

- STMicroelectronics PREFERRED SALESTYPE

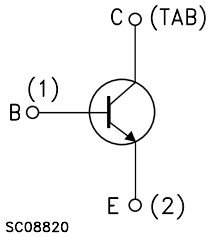
DESCRIPTION

The MJ802 is a silicon Epitaxial-Base power transistor mounted in Jedec TO-3 metal case. It is intended for general purpose power amplifier and switching applications.



TO-3

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CEO}	Collector-emitter Voltage (I_B = 0)	90	V
V_{CBO}	Collector-base Voltage (I_E = 0)	100	V
V_{EBO}	Emitter-Base Voltage (I_C = 0)	4	V
I_C	Collector Current	30	A
I_B	Base Current	7.5	A
P_{tot}	Total Dissipation at $T_c \leq 25\ ^oC$	200	W
T_{stg}	Storage Temperature	-65 to 200	^oC
T_j	Max. Operating Junction Temperature	200	^oC

THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	0.875	$^oC/W$

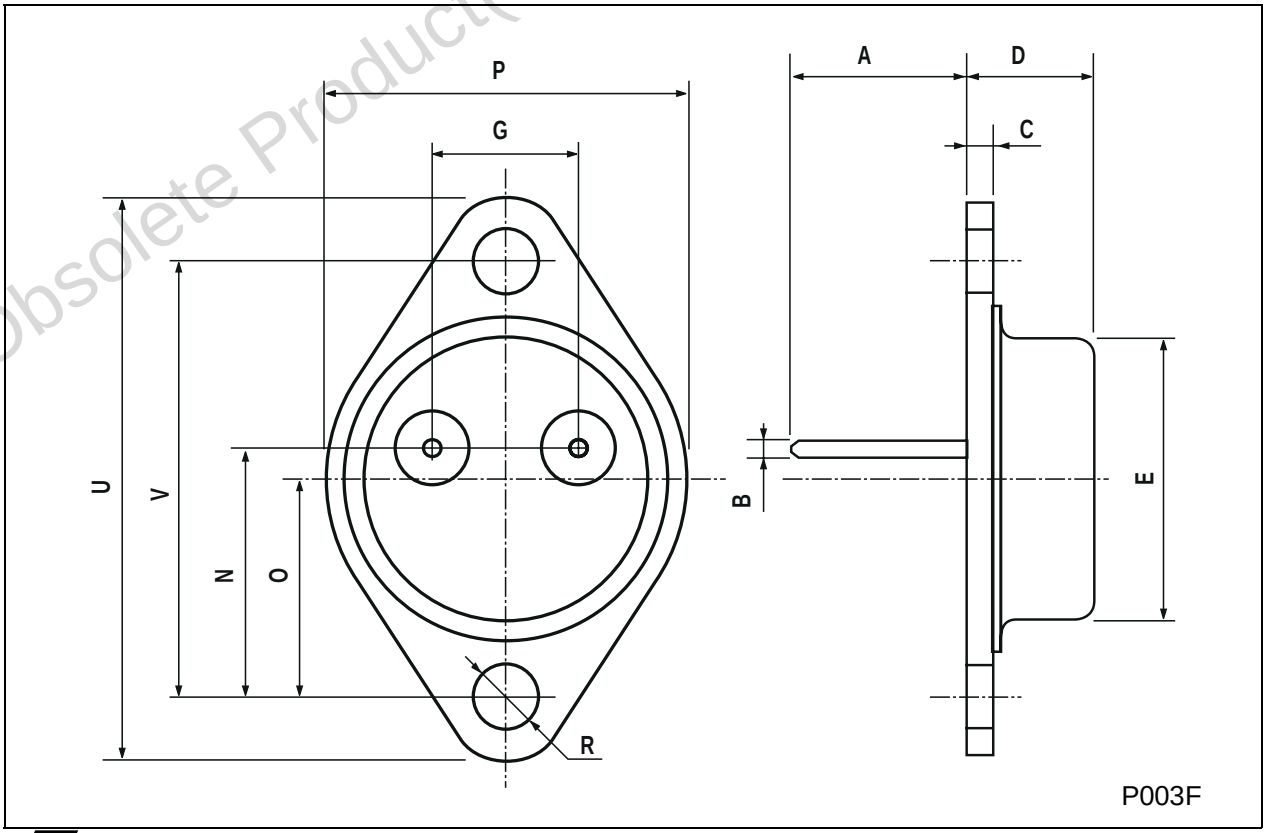
ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^oC unless otherwise specified)

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 T_{case} = 150 ^oC			1 5	mA mA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	V_{EB} = 4 V			1	mA
$V_{CEO(sus)}$*	Collector-Emitter Sustaining Voltage (I_B = 0)	I_C = 200 mA	90			V
$V_{CER(sus)}$*	Collector-emitter Sustaining Voltage (R_{BE} = 100 Ω)	I_C = 200 mA	100			V
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = 7.5 A I_B = 0.75 A			0.8	V
$V_{BE(sat)}$*	Base-Emitter Saturation Voltage	I_C = 7.5 A I_B = 0.75 A			1.3	V
V_{BE}*	Base-Emitter Voltage	I_C = 7.5 A V_{CE} = 2 V			1.3	V
h_{FE}*	DC Current Gain	I_C = 7.5 A V_{CE} = 2 V	25		100	
f_T	Transition Frequency	I_C = 1 A V_{CE} = 10 V f = 1 MHz	2			MHz

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

TO-3 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	11.00		13.10	0.433		0.516
B	0.97		1.15	0.038		0.045
C	1.50		1.65	0.059		0.065
D	8.32		8.92	0.327		0.351
E	19.00		20.00	0.748		0.787
G	10.70		11.10	0.421		0.437
N	16.50		17.20	0.649		0.677
P	25.00		26.00	0.984		1.023
R	4.00		4.09	0.157		0.161
U	38.50		39.30	1.515		1.547
V	30.00		30.30	1.187		1.193



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