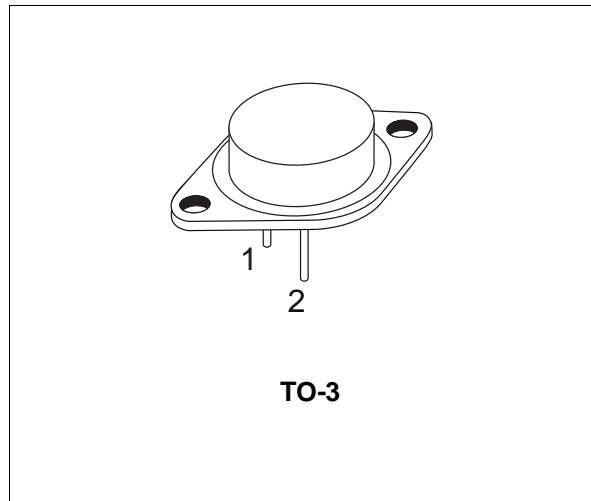


SILICON NPN POWER TRANSISTOR

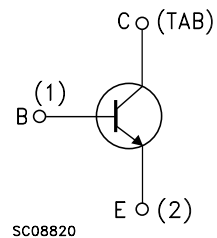
- STMicroelectronics PREFERRED SALESTYPE

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.



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 $T_c \leq 25^\circ\text{C}$	200	W
T_{stg}	Storage Temperature	-65 to 200	$^\circ\text{C}$
T_j	Max. Operating Junction Temperature	200	$^\circ\text{C}$

MJ802

THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	0.875	$^{\circ}C/W$
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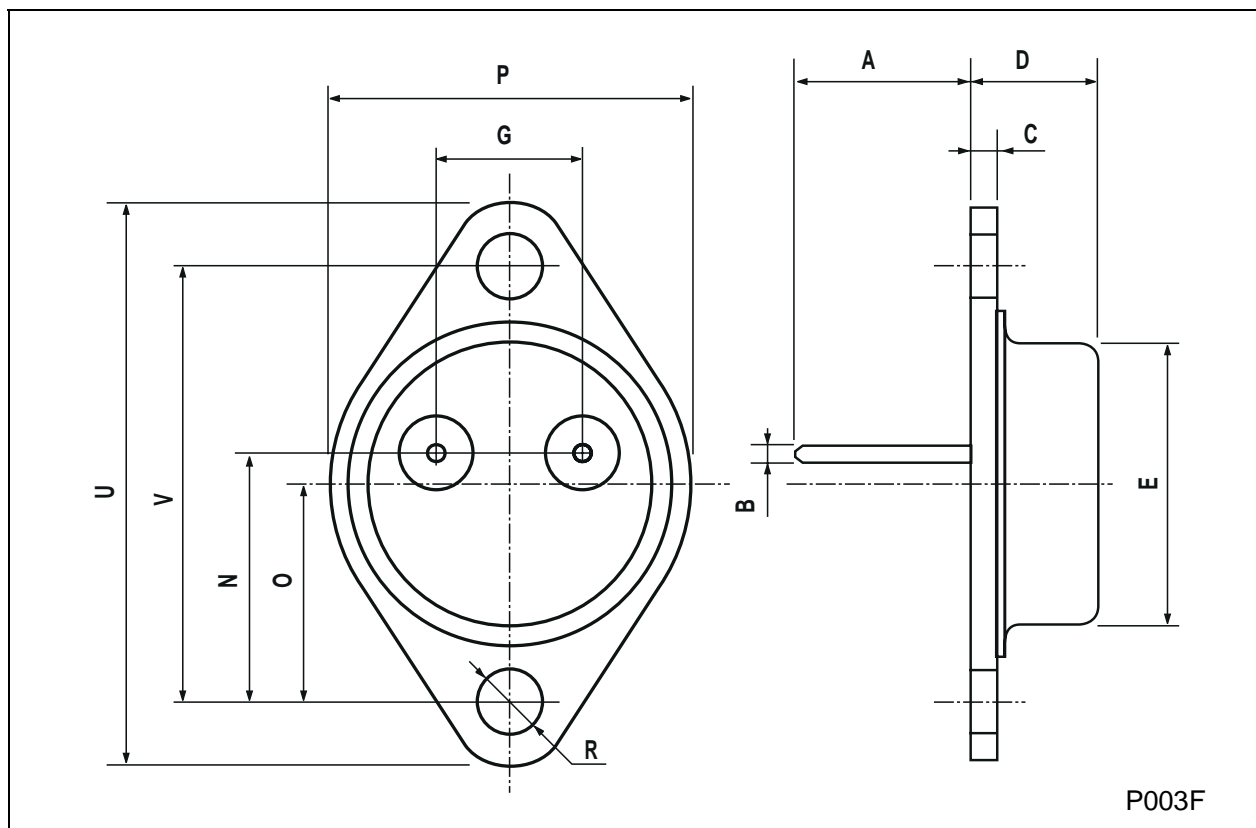
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current ($I_E = 0$)	$V_{CB} = 100 V$ $V_{CB} = 100 V$ $T_{case} = 150^{\circ}C$			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 ($R_{BE} = 100 \Omega$)	$I_C = 200 mA$	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	$I_C = 1 A$ $f = 1 MHz$ $V_{CE} = 10 V$	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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