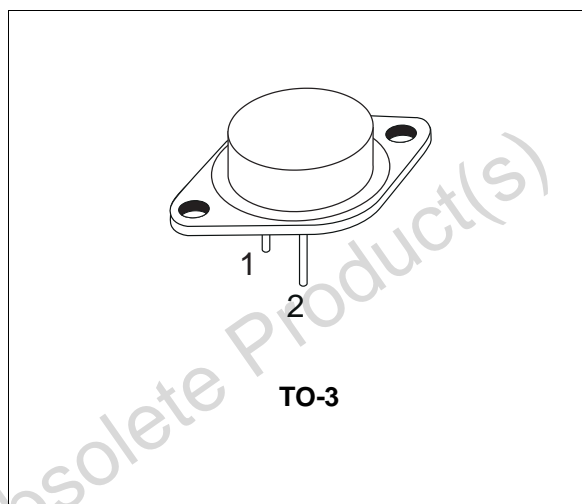


## SILICON NPN POWER TRANSISTOR

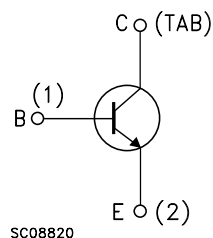
- STMicroelectronics PREFERRED SALESTYPE

### 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	$^\circ\text{C}$

**THERMAL DATA**

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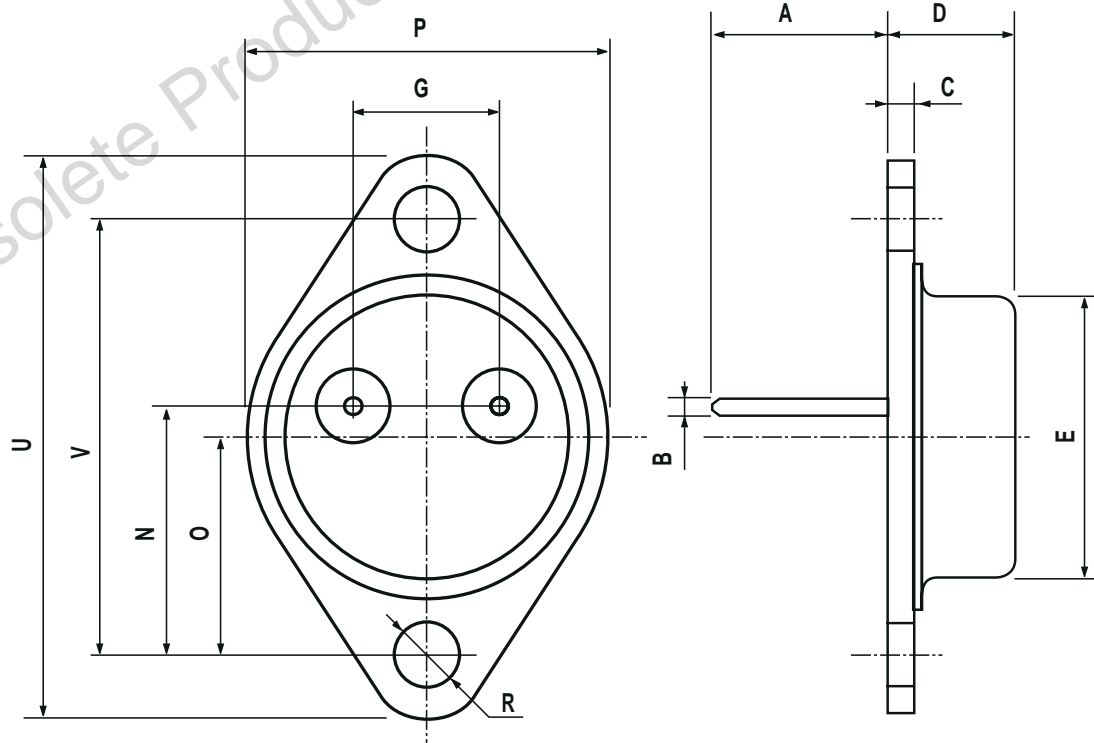
**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25\text{ °C}$  unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cut-off Current ( $I_E = 0$ )	$V_{CB} = 100\text{ V}$ $V_{CB} = 100\text{ V}$ $T_{case} = 150\text{ °C}$			1 5	mA mA
$I_{EBO}$	Emitter Cut-off Current ( $I_C = 0$ )	$V_{EB} = 4\text{ V}$			1	mA
$V_{CEO(sus)}^*$	Collector-Emitter Sustaining Voltage ( $I_B = 0$ )	$I_C = 200\text{ mA}$	90			V
$V_{CER(sus)}^*$	Collector-emitter Sustaining Voltage ( $R_{BE} = 100\text{ }\Omega$ )	$I_C = 200\text{ mA}$	100			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 7.5\text{ A}$ $I_B = 0.75\text{ A}$			0.8	V
$V_{BE(sat)}^*$	Base-Emitter Saturation Voltage	$I_C = 7.5\text{ A}$ $I_B = 0.75\text{ A}$			1.3	V
$V_{BE}^*$	Base-Emitter Voltage	$I_C = 7.5\text{ A}$ $V_{CE} = 2\text{ V}$			1.3	V
$h_{FE}^*$	DC Current Gain	$I_C = 7.5\text{ A}$ $V_{CE} = 2\text{ V}$	25		100	
$f_T$	Transition Frequency	$I_C = 1\text{ A}$ $f = 1\text{ MHz}$ $V_{CE} = 10\text{ V}$	2			MHz

\* Pulsed: Pulse duration = 300  $\mu$ s, 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



P003F

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