

isc Silicon NPN Power Transistor

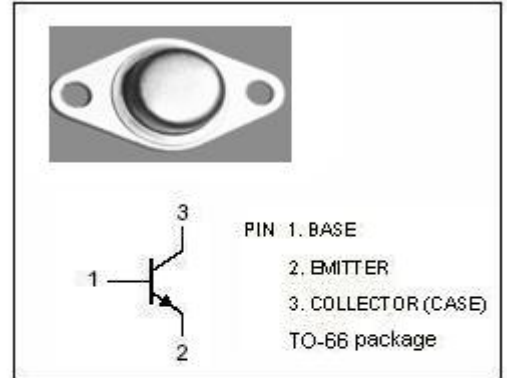
2N5202

DESCRIPTION

- Collector-emitter sustaining voltage $V_{CEO(SUS)} = 90V(\text{Min})$
- High saturation voltage
- Wide area of safe operation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

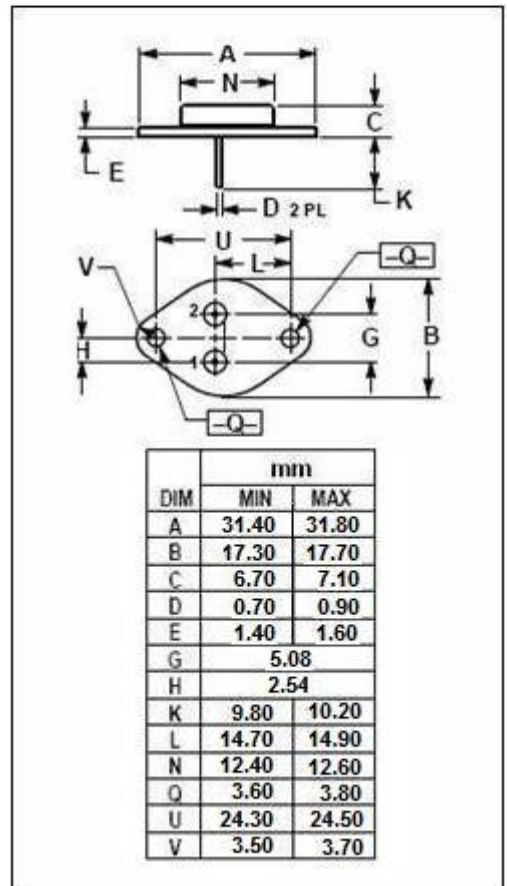
APPLICATIONS

- Designed for use in high-current, high-speed switching circuits such as: low-distortion power amplifiers, oscillators, switching regulators, series regulators, converters, and inverters.



ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	50	V
$V_{CER(SUS)}$	Collector-Emitter Voltage $R_{BE} = 50 \Omega$	75	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	4	A
I_{CM}	Collector Current-Peak	5	A
I_B	Base Current-Continuous	2	A
P_D	Total Power Dissipation @ $T_c = 25^\circ\text{C}$	35	W
T_J	Junction Temperature	-65~200	$^\circ\text{C}$
T_{stg}	Storage Temperature	-65~235	$^\circ\text{C}$



THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	5.0	$^\circ\text{C/W}$

isc Silicon NPN Power Transistor**2N5202****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C= 200\text{mA}; I_B= 0$	50		V
$V_{CER(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C= 200\text{mA}; I_B= 0$	75		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 4\text{A}; I_B= 0.4\text{A}$		1.2	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C= 4\text{A}; I_B= 0.4\text{A}$		2.0	V
I_{CEO}	Collector Cutoff Current	$V_{CE}= 70\text{V}; I_B= 0$		10	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}= 6\text{V}; I_C= 0$		10	mA
h_{FE1}	DC Current Gain	$I_C= 0.5\text{A}; V_{CE}= 10\text{V}$	6		
h_{FE2}	DC Current Gain	$I_C= 4\text{A}; V_{CE}= 1.2\text{V}$	10	100	

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