

isc Silicon NPN Power Transistor

2N4912

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 80V(\text{Min})$
- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 0.6V(\text{Max.}) @ I_C = 1A$
- Wide Area of Safe Operation
- Complement to Type 2N4900

APPLICATIONS

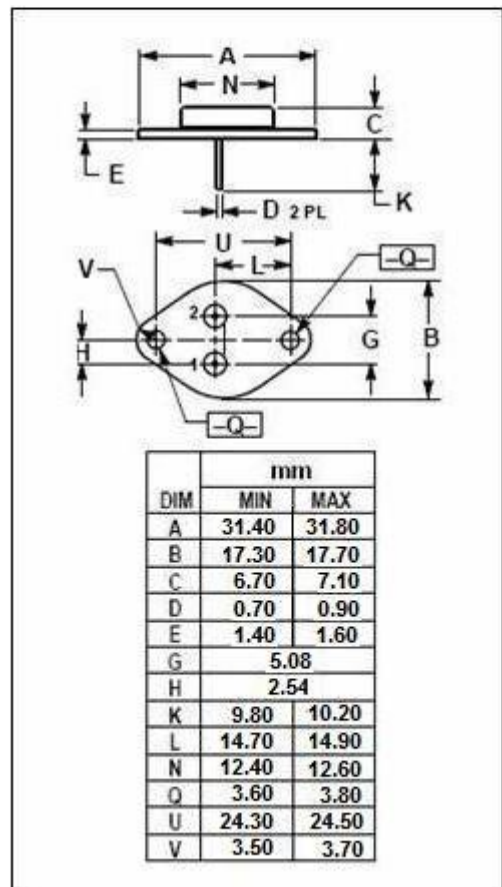
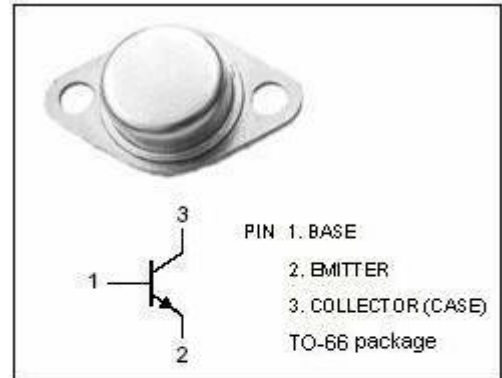
- Designed for driver circuits, switching and amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	1	A
I_{CM}	Collector Current-Peak	4	A
I_B	Collector Current-Continuous	1	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	25	W
T_J	Junction Temperature	200	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	7.0	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=100\text{mA}; I_B=0$	80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=0.1\text{A}$			0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=0.1\text{A}$			1.3	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=1\text{A}; V_{CE}=1\text{V}$			1.3	V
I_{CEX}	Collector Cutoff Current	$V_{CE}=80\text{V}; V_{BE(off)}=1.5\text{V}$ $V_{CE}=80\text{V}; V_{BE(off)}=1.5\text{V}; T_C=150^\circ\text{C}$			0.1 1.0	mA
I_{CEO}	Collector Cutoff Current	$V_{CE}=40\text{V}; I_B=0$			0.5	mA
I_{CBO}	Collector Cutoff Current	$V_{CB}=60\text{V}; I_E=0$			0.1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			1.0	mA
h_{FE-1}	DC Current Gain	$I_C=50\text{mA}; V_{CE}=1\text{V}$	40			
h_{FE-2}	DC Current Gain	$I_C=500\text{mA}; V_{CE}=1\text{V}$	20		100	
h_{FE-3}	DC Current Gain	$I_C=1\text{A}; V_{CE}=1\text{V}$	10			
f_T	Current-Gain—Bandwidth Product	$I_C=0.25\text{A}; V_{CE}=10\text{V}; f_{test}=1\text{MHz}$	3			MHz
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=100\text{kHz}$			100	pF