

isc Silicon PNP Power Transistors

2N4904

DESCRIPTION

- Low Collector Saturation Voltage-
: $V_{CE(sat)} = -1.5V(\text{Max.}) @ I_C = -5A$
- DC Current Gain-
: $h_{FE} = 25-100 @ I_C = -2.5A$
- Complement to Type 2N4913

APPLICATIONS

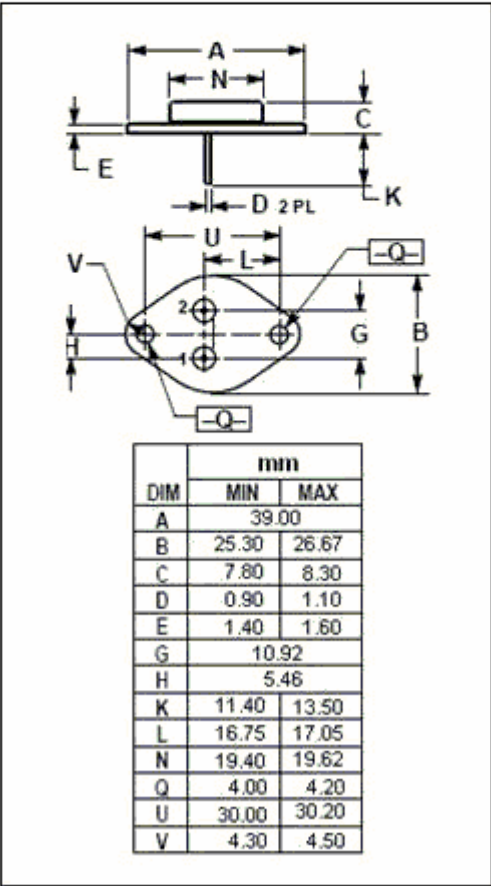
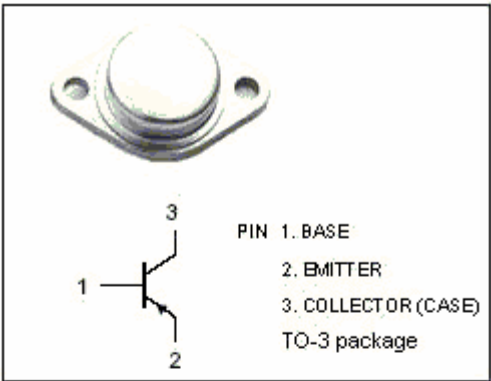
- Designed for general purpose use in power amplifier and switching circuits.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-5	A
I_B	Base Current-Continuous	-1	A
P_C	Collector Power Dissipation@ $T_C=25^{\circ}C$	87.5	W
T_J	Junction Temperature	200	$^{\circ}C$
T_{stg}	Storage Temperature	-65~200	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.0	$^{\circ}C/W$



ISC Silicon PNP Power Transistors**2N4904****ELECTRICAL CHARACTERISTICS** **$T_C=25^{\circ}\text{C}$ unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = -200\text{mA}$; $I_B = 0$	-40		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = -2.5\text{A}$; $I_B = -0.25\text{A}$		-1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = -5\text{A}$; $I_B = -1\text{A}$		-1.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -2.5\text{A}$; $V_{CE} = -2\text{V}$		-1.4	V
I_{CEO}	Collector Cutoff Current	$V_{CE} = -40\text{V}$; $I_B = 0$		-1.0	mA
I_{CBO}	Collector Cutoff Current	$V_{CB} = -40\text{V}$; $I_E = 0$		-0.1	mA
I_{CEV}	Collector Cutoff Current	$V_{CE} = -40\text{V}$; $V_{BE(off)} = -1.5\text{V}$ $V_{CE} = -40\text{V}$; $V_{BE(off)} = -1.5\text{V}$, $T_C = 150^{\circ}\text{C}$		-0.1 -2.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}$; $I_C = 0$		-1.0	mA
h_{FE-1}	DC Current Gain	$I_C = -2.5\text{A}$; $V_{CE} = -2\text{V}$	25	100	
h_{FE-2}	DC Current Gain	$I_C = -5\text{A}$; $V_{CE} = -2\text{V}$	7		
f_T	Current-Gain—Bandwidth Product	$I_C = -1\text{A}$; $V_{CE} = -10\text{V}$; $f_{test} = 1.0\text{MHz}$	4		MHz