

Silicon PNP Power Transistor

TIP514

DESCRIPTION

- Continuous Collector Current- $I_C = -5A$
- Collector-Emitter Breakdown Voltage-
 : $V_{(BR)CEO} = -150V(\text{Min.})$
- Collector Power Dissipation-
 : $P_C = 20W @ T_C \leq 100^\circ C$

APPLICATIONS

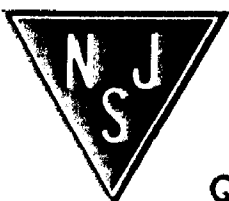
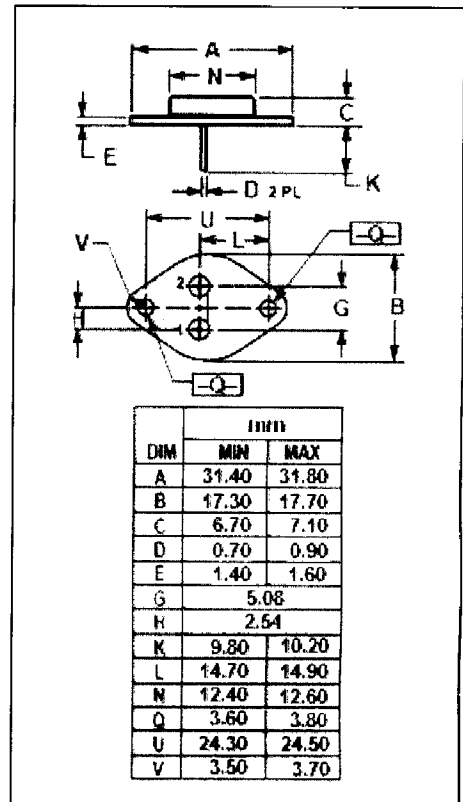
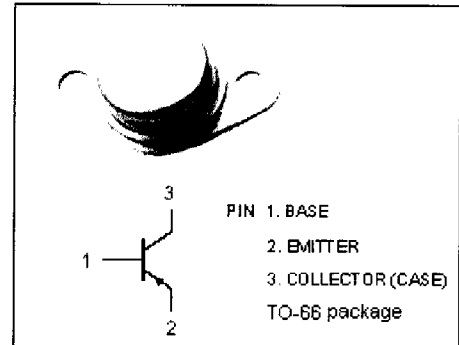
- Designed for power amplifier and high speed switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-150	V
V_{CEO}	Collector-Emitter Voltage	-150	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-5	A
I_{CM}	Collector Current-Peak	-7.5	A
I_B	Base Current-Continuous	-2	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ C$	2	W
	Collector Power Dissipation @ $T_C \leq 100^\circ C$	20	
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	5.0	$^\circ C/W$



Silicon NPN Power Transistor

TIP514

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -30\text{mA}; I_B = 0$	-150		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	$I_C = -5\text{A}; I_B = -0.5\text{A}$		-2.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -5\text{A}; V_{CE} = -4\text{V}$		-2.2	V
I_{CEO}	Collector Cutoff Current	$V_{CE} = -75\text{V}; I_B = 0$		-0.3	mA
I_{CES}	Collector Cutoff Current	$V_{CE} = -150\text{V}; V_{BE} = 0$ $V_{CE} = -75\text{V}; V_{BE} = 0; T_C = 150^\circ\text{C}$		-1.0 -2.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -2.5\text{V}; I_C = 0$ $V_{EB} = -5\text{V}; I_C = 0$		-0.1 -1.0	mA
h_{FE-1}	DC Current Gain	$I_C = -2.5\text{A}; V_{CE} = -4\text{V}$	30	150	
h_{FE-2}	DC Current Gain	$I_C = -5\text{A}; V_{CE} = -4\text{V}$	15		