

**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**

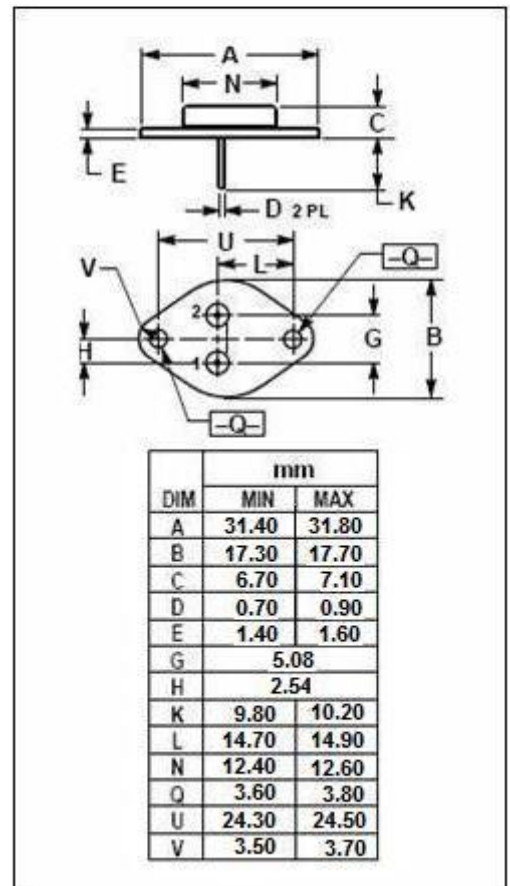
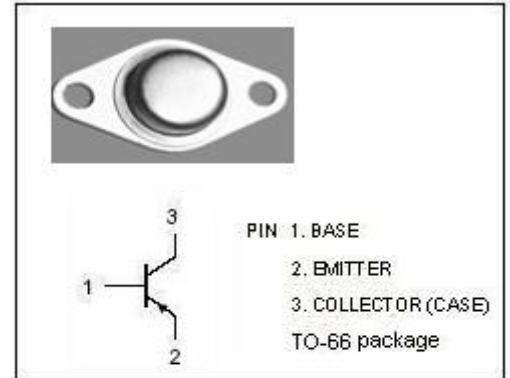
- Designed for power amplifier and high speed switching applications.

**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	$^\circ C/W$



**SPTECH 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
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = -150\text{V}; I_E = 0$		-1.0	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		