

**isc Silicon NPN Power Transistor**

**AD161**

**DESCRIPTION**

- Wide Area of Safe Operation
- DC Current Gain-  
:  $h_{FE}=50-350@I_C=0.5A$
- Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)}=0.7V(Max)@I_C=3A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

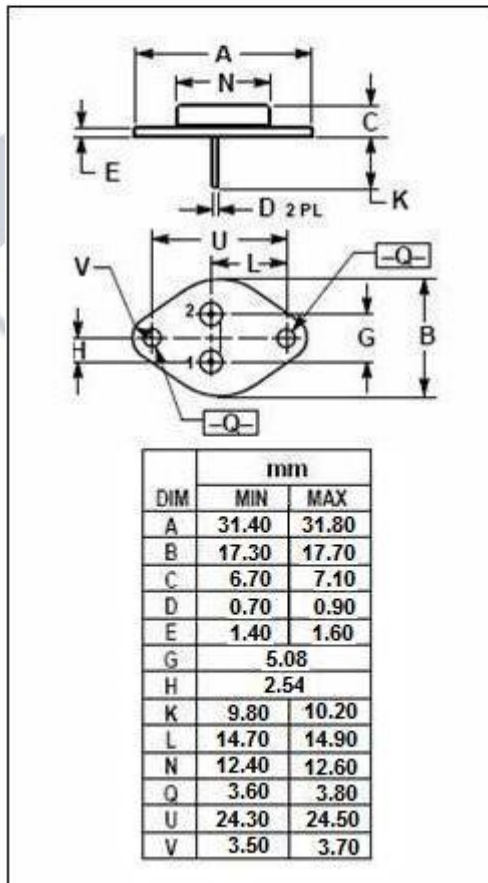
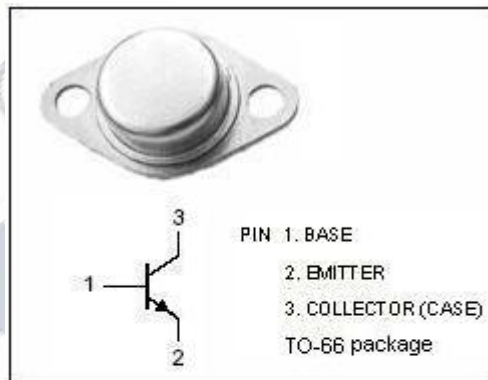
- Designed for general-purpose power switch and amplifier, consumer and industrial applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	32	V
$V_{CEO}$	Collector-Emitter Voltage	20	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current-Continuous	3	A
$P_C$	Collector Power Dissipation @ $T_C=25^{\circ}C$	4	W
$T_J$	Junction Temperature	90	$^{\circ}C$
$T_{stg}$	Storage Temperature	-55~200	$^{\circ}C$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.52	$^{\circ}C/W$



**isc Silicon NPN Power Transistor****AD161****ELECTRICAL CHARACTERISTICS**T<sub>j</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 100mA ; I <sub>B</sub> = 0	50		V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 1mA ; I <sub>E</sub> = 0	50		V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 1mA ; I <sub>C</sub> = 0	6		V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 3A; I <sub>B</sub> = 0.3A		0.7	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 3A; I <sub>B</sub> = 0.3A		1.2	V
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 50V; I <sub>B</sub> = 0		0.1	mA
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 32V; I <sub>E</sub> = 0		0.5	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 7.0V; I <sub>C</sub> =0		10	μ A
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 0.5A ; V <sub>CE</sub> = 1V	50	350	