

isc Silicon NPN Power Transistor

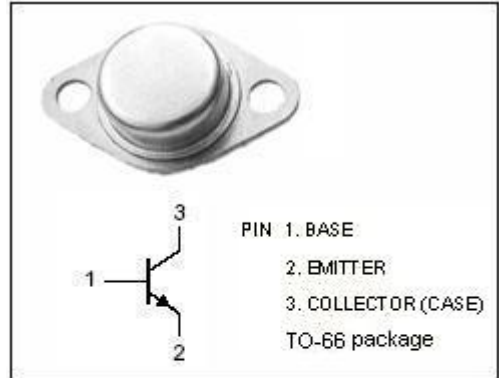
2N5430

DESCRIPTION

- Continuous Collector Current- $I_C = 7A$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1.2V(Max) @ I_C = 7A$
- Wide Area of Safe Operation

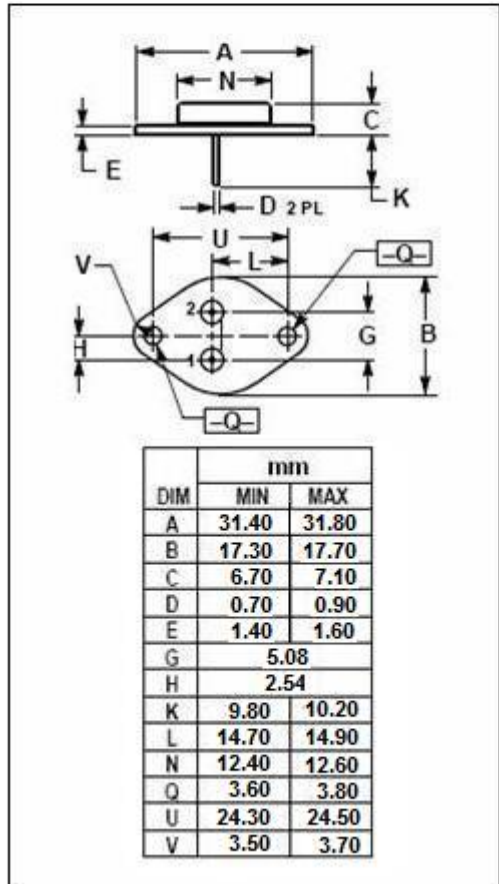
APPLICATIONS

- Designed for switching and wide-band amplifier applications.



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	7	A
I_B	Base Current-Continuous	1	A
P_C	Collector Power Dissipation@ $T_C = 25^\circ C$	40	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	4.37	$^\circ C/W$

isc Silicon NPN Power Transistor**2N5430****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CE0(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}; I_B=0$	100		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.2\text{A}$		0.7	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=7\text{A}; I_B=0.7\text{A}$		1.2	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.2\text{A}$		1.2	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C=7\text{A}; I_B=0.7\text{A}$		2.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=100\text{V}; I_E=0$		0.1	mA
I_{CEX}	Collector Cutoff Current	$V_{CE}=90\text{V}; V_{BE(off)}=-1.5\text{V}$ $V_{CE}=90\text{V}; V_{BE(off)}=-1.5\text{V}, T_C=150^{\circ}\text{C}$		0.1 1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=6\text{V}; I_C=0$		0.1	mA
h_{FE-1}	DC Current Gain	$I_C=0.5\text{A}; V_{CE}=2\text{V}$	60		
h_{FE-2}	DC Current Gain	$I_C=2\text{A}; V_{CE}=2\text{V}$	60	240	
h_{FE-3}	DC Current Gain	$I_C=5\text{A}; V_{CE}=2\text{V}$	40		
f_T	Current Gain-Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=10\text{V}; f=10\text{MHz}$	20		MHz