

isc Silicon NPN Power Transistor

2N5686

DESCRIPTION

- High DC Current Gain- $h_{FE}=15\sim60@I_C = 25A$
- Low Saturation Voltage-
 $V_{CE(sat)}= 1.0V(Max)@ I_C = 25A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

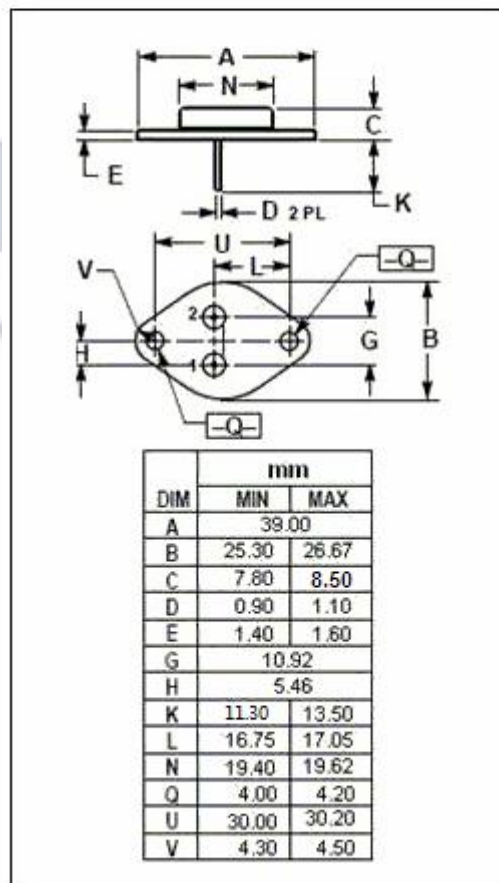
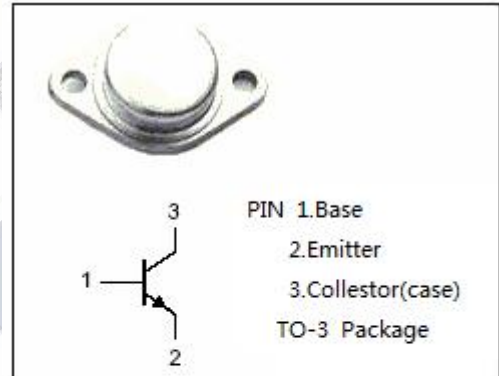
- Designed for use in high power amplifier and switching circuits applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	50	A
I_B	Base Current-Continuous	15	A
P_C	Collector Power Dissipation @ $T_C=25^\circ C$	300	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	0.584	$^\circ C/W$



isc Silicon NPN Power Transistor**2N5686****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CE0(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}$; $I_B=0$	80		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C= 25\text{A}$; $I_B=2.5\text{A}$		1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C= 50\text{A}$; $I_B=10\text{A}$		5.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C= 25\text{A}$; $I_B=2.5\text{A}$		2.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C= 25\text{A}$; $V_{CE}=2\text{V}$		2.0	V
I_{CEO}	Collector Cutoff Current	$V_{CE}=40\text{V}$; $I_B=0$		1	mA
I_{CBO}	Collector Cutoff Current	$V_{CB}= 80\text{V}$; $I_C=0$		2	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}= 5\text{V}$; $I_C=0$		5	mA
h_{FE-1}	DC Current Gain	$I_C= 25\text{A}$; $V_{CE}= 2\text{V}$	15	60	
h_{FE-2}	DC Current Gain	$I_C= 50\text{A}$; $V_{CE}= 5\text{V}$	5		
f_T	Current Gain-Bandwidth Product	$I_C= 5\text{A}$; $V_{CE}= 10\text{V}$; $f=1.0\text{MHz}$	2		MHz