

isc Silicon NPN Power Transistor

MJ3771

DESCRIPTION

- Low Collector-Emitter Saturation Voltage-
Vce(sat)=1V(Max)@Ic=15A
- Low Leakage -
Icbo=1mA(max)@50V
- High Current-Gain-Bandwidth Product-
f_T=2MHz(min)@Ic=1A

APPLICATIONS

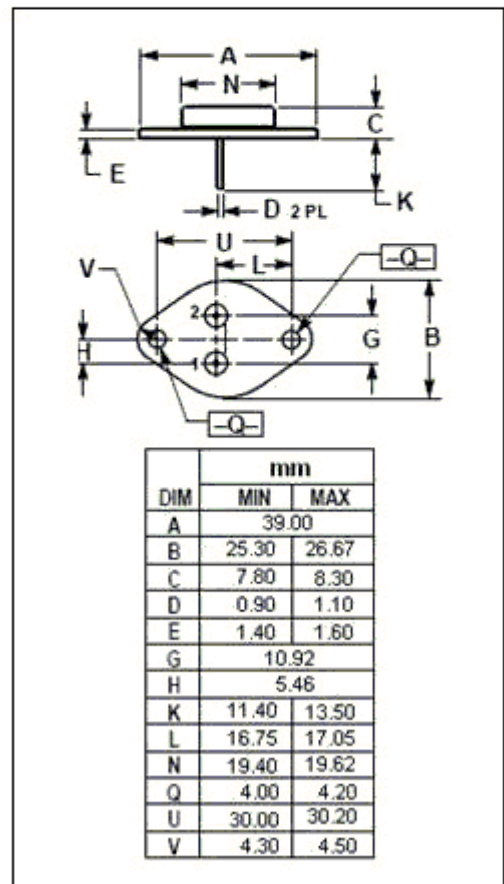
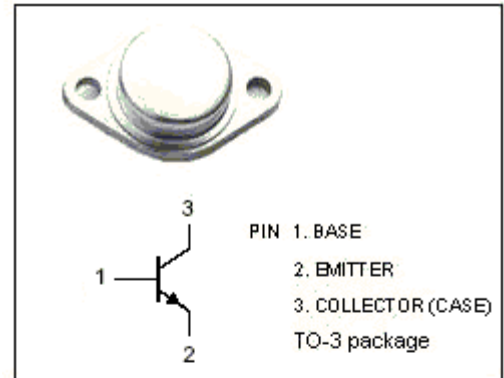
- Designed for power amplifier and switching applications.
- For ultimate circuit performance based on the design requirements.

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	50	V
V _{CEO}	Collector-Base Voltage	50	V
V _{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current-Continuous	30	A
I _B	Base Current-Continuous	7.5	A
P _C	Collector Power Dissipation@T _C =25°C	200	W
T _J	Junction Temperature	200	°C
T _{stg}	Storage Temperature Range	-65~200	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance,Junction to Case	0.875	°C/W



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.2\text{A}; I_B=0$	40			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=15\text{A}; I_B=1.5\text{A}$			1	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=30\text{A}; I_B=6\text{A}$			4	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=15\text{A}; V_{CE}=4\text{V}$			1.7	V
I_{CEX}	Collector Cutoff Current	$V_{CE}=50\text{V}; V_{BE(off)}=1.5\text{V}$ $V_{CE}=30\text{V}; V_{BE(off)}=1.5\text{V}, T_C=150^{\circ}\text{C}$			1 2	mA
I_{CBO}	Collector Cutoff Current	$V_{CE}=50\text{V}; I_E=0$			1	mA
I_{CEO}	Collector Cutoff current	$V_{CE}=30\text{V}; I_C=0$			2	mA
I_{EBO}	Emitter Cutoff current	$V_{EB}=5\text{V}; I_C=0$			1	mA
h_{FE-1}	DC Current Gain	$I_C=15\text{A}; V_{CE}=4\text{V}$	15		60	
h_{FE-2}	DC Current Gain	$I_C=30\text{A}; V_{CE}=4\text{V}$	5			
f_T	Current-Gain-Bandwidth Product	$I_C=1\text{A}; V_{CE}=4\text{V}; f_{test}=1\text{MHz}$	2			MHz