

isc Silicon NPN Power Transistor

MJ3772

DESCRIPTION

- Low Collector-Emitter Saturation Voltage-
 $V_{ce(sat)}=0.8V(Max)@I_c=10A$
- Low Leakage -
 $I_{cbo}=1mA(max)@100V$
- High Current-Gain-Bandwidth Product-
 $f_T=2MHz(min)@I_c=1A$

APPLICATIONS

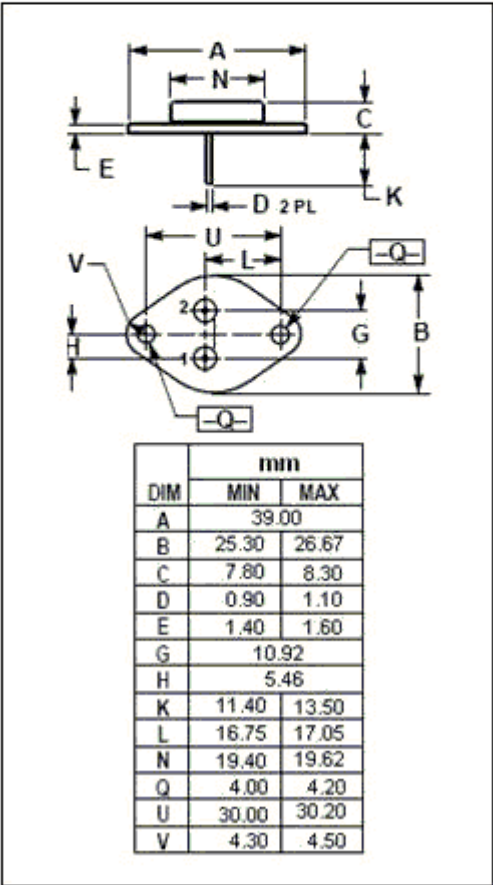
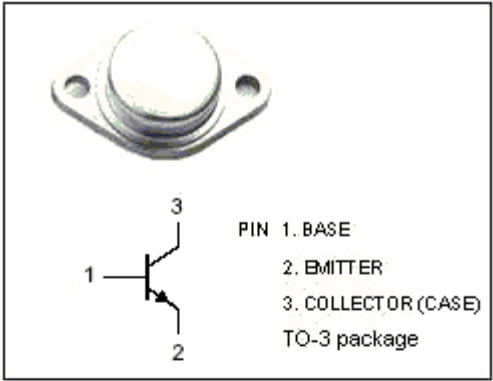
- Designed for power amplifier and switching applications.
- For ultimate circuit performance based on the design requirements.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Base Voltage	60	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	20	A
I_B	Base Current-Continuous	5	A
P_C	Collector Power Dissipation@ $T_C=25^{\circ}C$	200	W
T_J	Junction Temperature	200	$^{\circ}C$
T_{stg}	Storage Temperature Range	-65~200	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance,Junction to Case	0.875	$^{\circ}C/W$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.2\text{A}; I_B=0$	60			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=1\text{A}$			0.8	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=20\text{A}; I_B=4\text{A}$			3	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=10\text{A}; V_{CE}=4\text{V}$			1.5	V
I_{CEX}	Collector Cutoff Current	$V_{CE}=100\text{V}; V_{BE(off)}=1.5\text{V}$ $V_{CE}=30\text{V}; V_{BE(off)}=1.5\text{V}, T_C=150^{\circ}\text{C}$			1 2	mA
I_{CBO}	Collector Cutoff Current	$V_{CE}=100\text{V}; I_E=0$			1	mA
I_{CEO}	Collector Cutoff current	$V_{CE}=50\text{V}; I_C=0$			2	mA
I_{EBO}	Emitter Cutoff current	$V_{EB}=7\text{V}; I_C=0$			1	mA
h_{FE-1}	DC Current Gain	$I_C=10\text{A}; V_{CE}=4\text{V}$	15		60	
h_{FE-2}	DC Current Gain	$I_C=20\text{A}; V_{CE}=4\text{V}$	5			
f_T	Current-Gain-Bandwidth Product	$I_C=1\text{A}; V_{CE}=4\text{V}; f_{test}=1\text{MHz}$	2			MHz