

isc Silicon NPN Power Transistor

MJ410

DESCRIPTION

- High Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 200V(\text{Min.})$
- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 0.8V(\text{Max}) @ I_C = 1A$

APPLICATIONS

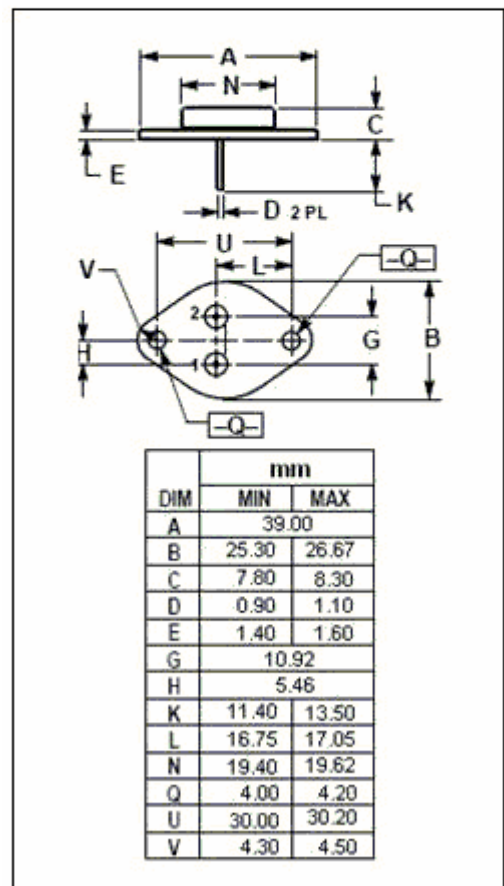
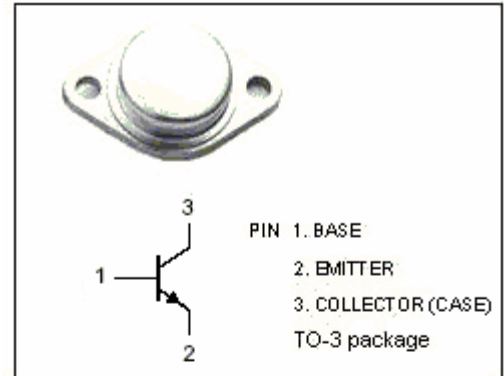
- Designed for medium to high voltage inverters, converters, regulators and switching circuits.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	200	V
V_{CEO}	Collector-Emitter Voltage	200	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	5	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current-Continuous	2	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	100	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.75	$^\circ\text{C/W}$



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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	$I_C=100\text{mA}; I_B=0$	200			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=0.1\text{A}$			0.8	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=0.1\text{A}$			1.2	V
I_{CEO}	Collector Cutoff Current	$V_{CE}=200\text{V}; I_B=0$			0.25	mA
I_{CBO}	Collector Cutoff Current	$V_{CB}=200\text{V}; V_{EB(off)}=1.5\text{V}; T_C=125^{\circ}\text{C}$			0.5	mA
I_{EBO}	Emitter Cutoff current	$V_{EB}=5\text{V}; I_C=0$			5.0	mA
h_{FE-1}	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	30		90	
h_{FE-2}	DC Current Gain	$I_C=2.5\text{A}; V_{CE}=5\text{V}$	10			
f_T	Current-Gain—Bandwidth Product	$I_C=0.2\text{A}; V_{CE}=10\text{V}; f=1.0\text{MHz}$	2.5			MHz