

isc Silicon NPN Power Transistor

MJ13333

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 400V(\text{Min})$
- Reversed Biased SOA with Inductive Loads
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

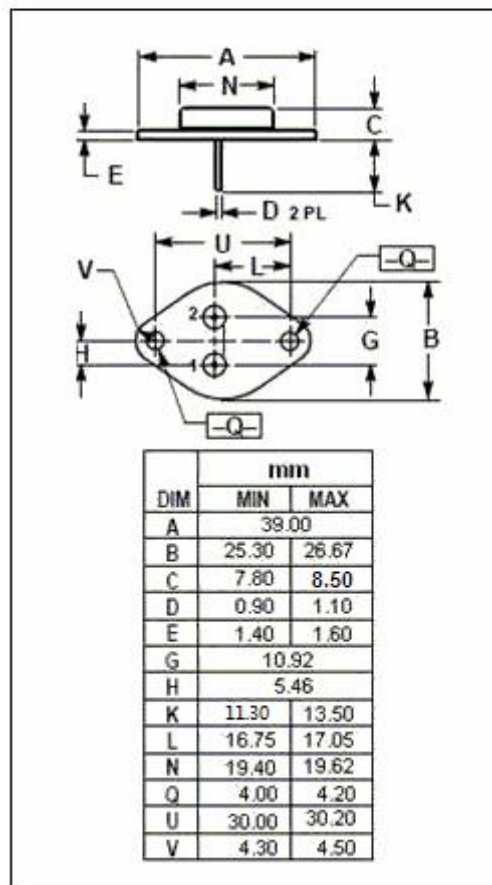
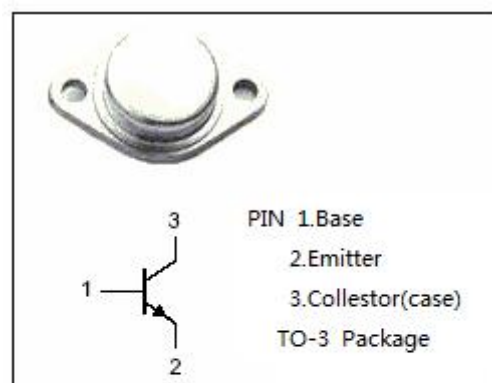
- Switching Regulators
- Inverters
- Solenoid and Relay Drivers
- Motor Controls
- Deflection Circuits

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector- Base Voltage	700	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	20	A
I_{CM}	Collector Current-Peak	30	A
I_B	Base Current-Continuous	10	A
P_C	Collector Power Dissipation@ $T_c=25^\circ\text{C}$	175	W
T_{stg}	Storage Temperature	-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.0	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**MJ13333****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	$I_C=50\text{mA}$; $I_B=0$	400			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}$; $I_B=2\text{A}$			1.8	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=20\text{A}$; $I_B=6.7\text{A}$			5.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=10\text{A}$; $I_B=2\text{A}$			1.8	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=700\text{V}$; $I_E=0$			0.25	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=6\text{V}$; $I_C=0$			1	mA
h_{FE}	DC Current Gain	$I_C=5\text{A}$; $V_{CE}=5\text{V}$	10		60	

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