

isc Silicon NPN Power Transistor

MJ16016

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 450V(\text{Min})$
- High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

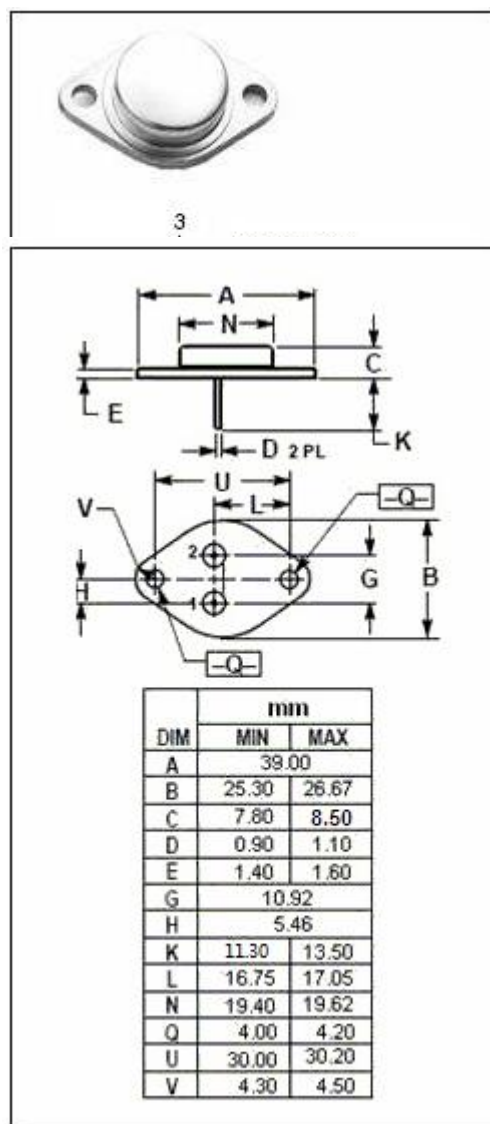
- Switching regulators
- Inverters
- Solenoid and relay drivers
- Motor controls
- Deflection circuits

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector- Base Voltage	850	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	450	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
I_{BM}	Base Current-Peak	20	A
P_C	Collector Power Dissipation@ $T_c=25^{\circ}\text{C}$	250	W
T_J	Junction Temperature	200	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-65~200	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance,Junction to Case	0.7	$^{\circ}\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}$; $I_B=0$	450			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}$; $I_B=1\text{A}$			2.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=15\text{A}$; $I_B=1.5\text{A}$ $I_C=15\text{A}$; $I_B=1.5\text{A}$, $T_C=100^{\circ}\text{C}$			3.0 3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=15\text{A}$; $I_B=1.5\text{A}$ $I_C=15\text{A}$; $I_B=1.5\text{A}$, $T_C=100^{\circ}\text{C}$			1.5 1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CBO}=850\text{V}$; $I_E=0$ $V_{CBO}=850\text{V}$; $I_E=0$; $T_C=100^{\circ}\text{C}$			0.25 1.5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=6\text{V}$; $I_C=0$			1.0	mA
h_{FE}	DC Current Gain	$I_C=20\text{A}$; $V_{CE}=5\text{V}$	7			
C_{OB}	Output Capacitance	$I_E=0$; $V_{CB}=10\text{V}$; $f_{test}=1.0\text{kHz}$		500		pF

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