

Silicon NPN Power Transistor

MJ21194

DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain-
: $h_{FE} = 25-75 @ I_C = 8A, V_{CE} = 5V$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1.4 V(Max) @ I_C = 8A$
- Complement to the PNP MJ21193
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

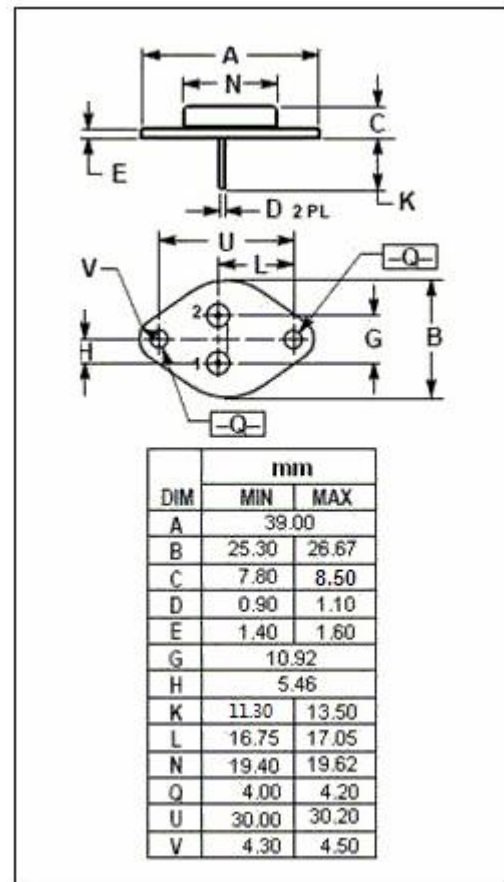
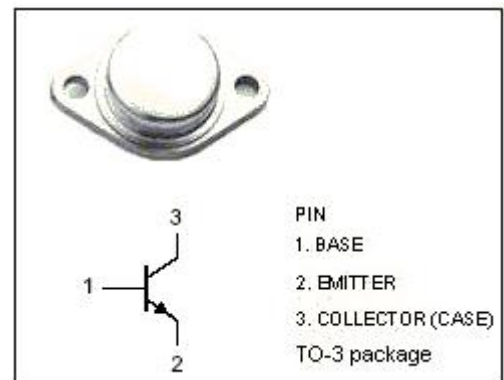
- Designed for high power audio output, disk head positioners and other linear applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	400	V
V_{CEO}	Collector-Emitter Voltage	250	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	16	A
I_B	Base Current	5	A
P_D	Total Power Dissipation@ $T_C=25^\circ C$	250	W
T_j	Junction Temperature	200	$^\circ C$
T_{stg}	Storage Temperature	-65~200	$^\circ C$

THERMAL CHARACTERISTICS

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



Silicon NPN Power Transistor**MJ21194****ELECTRICAL CHARACTERISTICS****T_j=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 50mA ; I _B = 0	250		V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 8A; I _B = 0.8A		1.4	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 16A; I _B = 3.2A		4.0	V
V _{BE(on)}	Base-Emitter On Voltage	I _C =8A ; V _{CE} = 5V		2.2	V
I _{CEO}	Collector Cutoff Current	V _{CE} = 200V; V _{BE(off)} = 0		0.1	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0		0.1	mA
h _{FE-2}	DC Current Gain	I _C = 8A ; V _{CE} = 5V	25	75	
h _{FE-3}	DC Current Gain	I _C = 16A ; V _{CE} = 5V	8		
I _{s/b}	Second Breakdown Collector Current with Base Forward Biased	V _{CE} = 50Vdc, t= 1 s, Nonrepetitive	5		A
C _{OB}	Output Capacitance	I _E = 0 ; V _{CB} = 10V; f _{test} = 1.0MHz	300		pF
f _T	Current-Gain—Bandwidth Product	I _C = 1A ; V _{CE} = 10V; f _{test} = 1.0MHz	4		MHz

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