

isc Silicon NPN Power Transistor

MJ15003

DESCRIPTION

- High DC Current Gain-
: $h_{FE} = 25(\text{Min})@I_C = 5A$
- Wide Area of Safe Operation
- Complement to the PNP MJ15004
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

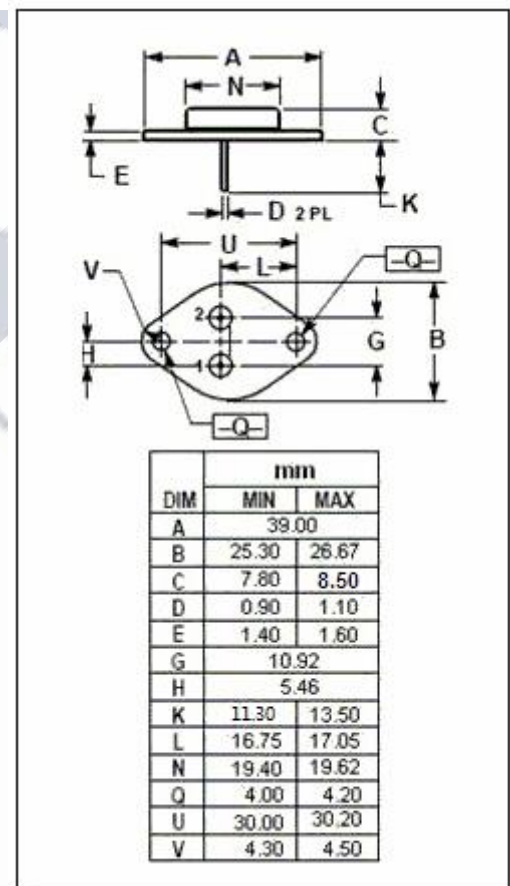
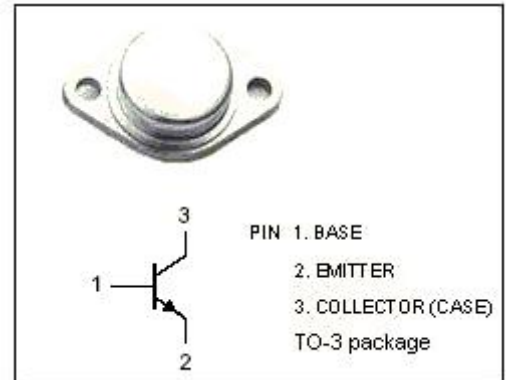
- Designed for high power audio, disk head positioners and other linear applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	140	V
V_{CEO}	Collector-Emitter Voltage	140	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	20	A
I_B	Base Current-Continuous	5	A
P_D	Total 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	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**MJ15003****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	140		V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 5A; I _B = 0.5A		1	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 5A ; V _{CE} = 2V		2	V
I _{CEO}	Collector Cutoff Current	V _{CE} = 140V; I _B = 0		0.25	mA
I _{CBO}	Collector Cutoff Current	V _{CB} = 140V; I _E =0 V _{CB} = 140V; I _E =0; T _C = 150°C		0.1 2.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0		0.1	mA
h _{FE}	DC Current Gain	I _C = 5A ; V _{CE} = 2V	25	150	
I _{s/b}	Second Breakdown Collector Current with Base Forward Biased	V _{CE} = 100V, t= 1s, Nonrepetitive	1		A
C _{OB}	Output Capacitance	I _E = 0 ; V _{CB} = 10V; f _{test} = 1.0MHz		1000	pF
f _T	Current-Gain—Bandwidth Product	I _C = 0.5A ; V _{CE} = 10V; f _{test} = 0.5MHz	2		MHz