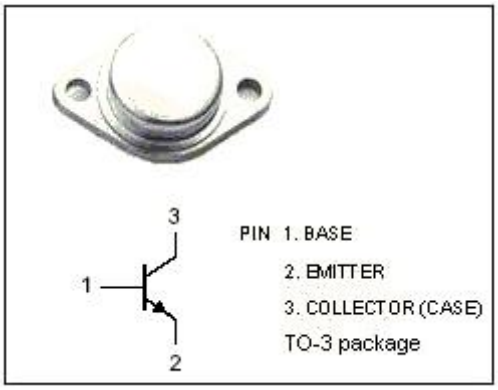
isc Silicon NPN Power Transistor — MJ15003

DESCRIPTION

- High DC Current Gain-
  : h_{FE}= 25(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

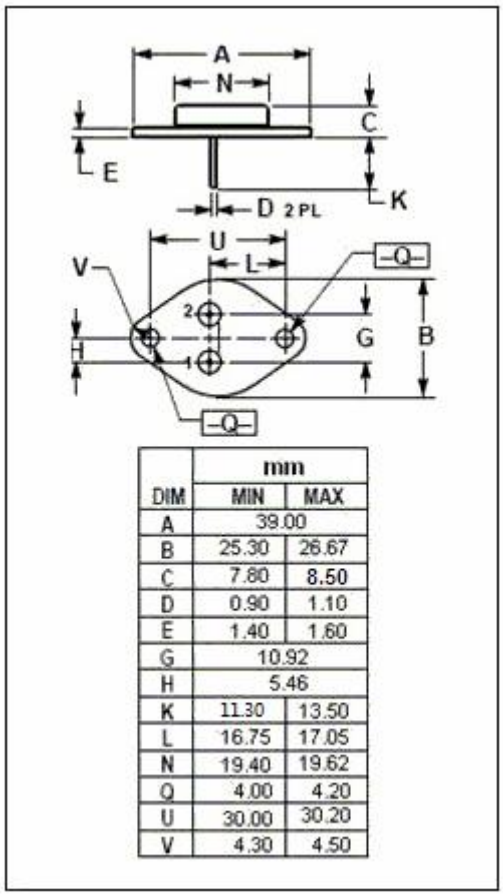
- Designed for high power audio,disk head positioners and other linear applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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℃	250	W
T_j	Junction Temperature	200	℃
T_{stg}	Storage Temperature	-65~200	℃

THERMAL CHARACTERISTICS

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



DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

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ELECTRICAL CHARACTERISTICS

Tj=25℃ 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℃		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