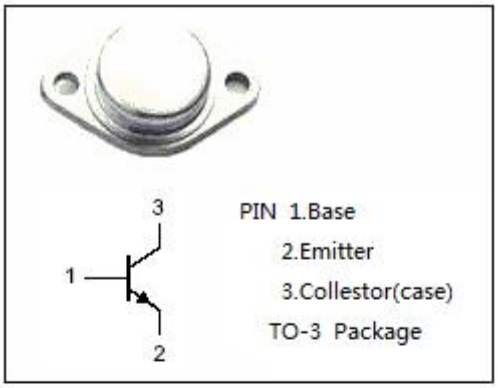
isc Silicon NPN Power Transistors — MJ15022/15024

DESCRIPTION

- Complement to Type PNP MJ15023/15025
- Excellent Safe Operating Area
- High DC current Gain
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

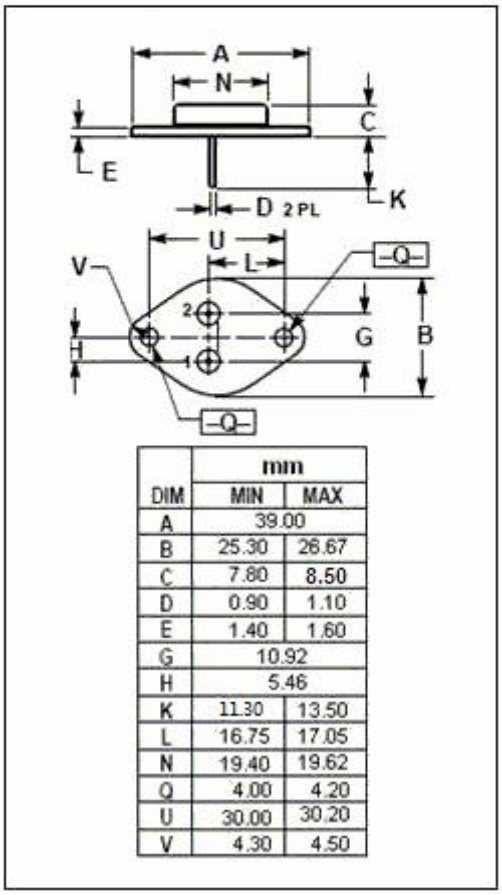


APPLICATIONS

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

ABSOLUTE MAXIMUM RATINGS(T_C=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	MJ15022	350	V
		MJ15024	400	
V_{CEO}	Collector-Emitter Voltage	MJ15022	200	V
		MJ15024	250	
V_{EBO}	Emitter-Base Voltage		5	V
I_C	Collector Current-Continuous		16	A
I_{CM} (1)	Collector Current-Peak		30	A
I_B	Base Current-Continuous		5	A
P_D	Total Power Dissipation @T_C=25℃		250	W
T_j	Junction Temperature		-65~200	℃
T_{stg}	Storage Temperature		-65~200	℃



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

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	0.70	℃/W

(1) Pulse Test: Pulse Width = 5 ms, Duty Cycle _ 10%.

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ELECTRICAL CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$ (1)	Collector-Emitter Sustaining Voltage	MJ15022	I_C= 50mA ;I_B= 0	200		V
		MJ15024		250		
$V_{CE(sat)-1}$	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}= 4V		2.2	V
I_{CEO}	Collector Cutoff Current	MJ15022	V_{CE}= 150V; I_B= 0		0.5	mA
		MJ15024	V_{CE}= 200V; I_B= 0			
I_{CBO}	Collector Cutoff Current	MJ15022	V_{CB}= 200V; I_E= 0		0.25	mA
		MJ15024	V_{CB}= 250V; I_E= 0			
I_{EBO}	Emitter Cutoff Current		V_{EB}= 5V; I_C=0		0.5	mA
h_{FE-1}	DC Current Gain		I_C= 8A ; V_{CE}= 4V	15	60	
h_{FE-2}	DC Current Gain		I_C= 16A ; V_{CE}= 4V	5		
$I_{s/b}$	Second Breakdown Collector Current With Base Forward Biased		V_{CE}= 50Vdc,t=0.5 s, Nonrepetitive V_{CE}= 80Vdc,t=0.5 s,Nonrepetitive	5.0 2.0		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

(1) Pulse Test: Pulse Width = 300 μs, Duty Cycle _ 2%.

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