

isc Silicon PNP Power Transistor

MJ15016

DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain-
: $h_{FE} = 20-70 @ I_C = -4A, V_{CE} = -4V$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = -1.1 V(Max) @ I_C = -4A$
- Complement to the NPN MJ15015
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

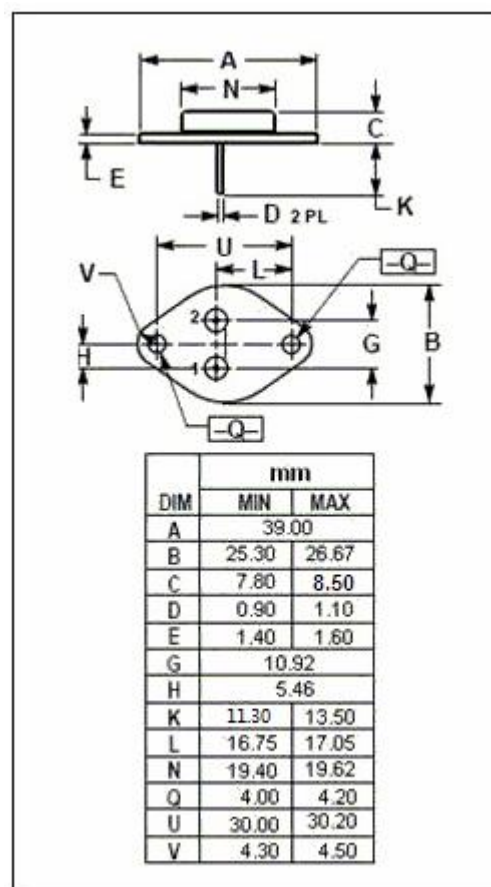
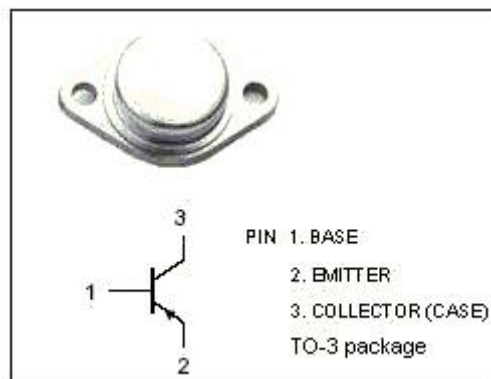
- Designed for high power audio, stepping motor and other linear applications, and can also be used in power switching circuits such as relay or solenoid drivers, DC-DC converters, inverters and etc.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-200	V
V_{CEO}	Collector-Emitter Voltage	-120	V
V_{EBO}	Emitter-Base Voltage	-7	V
I_C	Collector Current-Continuous	-15	A
I_B	Base Current	-7	A
P_D	Total Power Dissipation@ $T_c=25^{\circ}C$	180	W
T_j	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature	-65~200	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	0.98	$^{\circ}C/W$



isc Silicon PNP Power Transistor**MJ15016****ELECTRICAL CHARACTERISTICS****T_c=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = -50mA ; I _B = 0	-120		V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = -4A; I _B = -0.4A		-1.1	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = -10A; I _B = -3.3A		-3.0	V
V _{CE(sat)-3}	Collector-Emitter Saturation Voltage	I _C = -15A; I _B = -7.0A		-5.0	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = -4A ; V _{CE} = -4V		-1.8	V
I _{CEO}	Collector Cutoff Current	V _{CE} = -60V; V _{BE(OFF)} = 0		-0.1	mA
I _{CBO}	Collector Cutoff Current	V _{CE} =200; I _E =0 V _{CE} =200; I _E =0; T _C =150°C		-1 -5	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = -7V; I _C =0		-0.2	mA
h _{FE-1}	DC Current Gain	I _C = -4A ; V _{CE} = -2V	10	70	
h _{FE-2}	DC Current Gain	I _C = -4A ; V _{CE} = -4V	20	70	
h _{FE-3}	DC Current Gain	I _C = -10A ; V _{CE} = -4V	5		
I _{s/b}	Second Breakdown Collector Current with Base Forward Biased	V _{CE} = -60V, t= 0.5 s, Nonrepetitive	-3		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} = -4V; f _{test} = 1.0MHz	2.2		MHz

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