

DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain- $h_{FE}=20-70@I_C = 4A$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)}= 1.1 V(Max)@ I_C = 4A$
- Complement to Type MJ2955A

APPLICATIONS

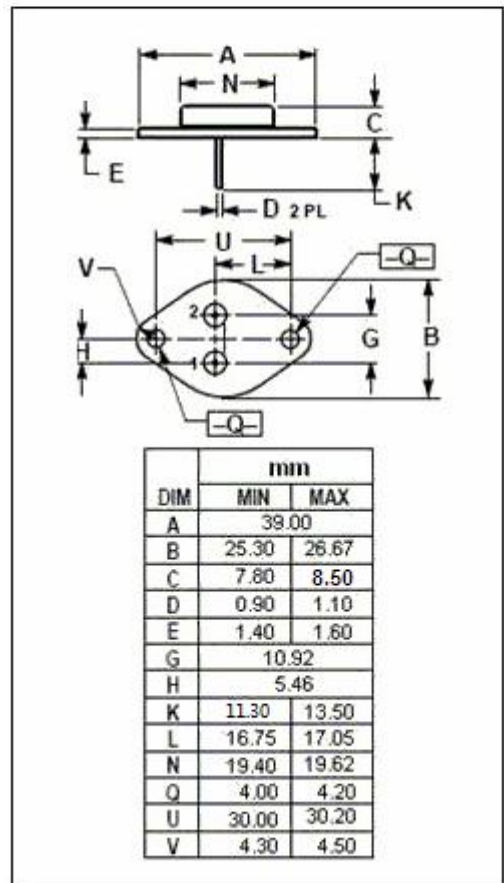
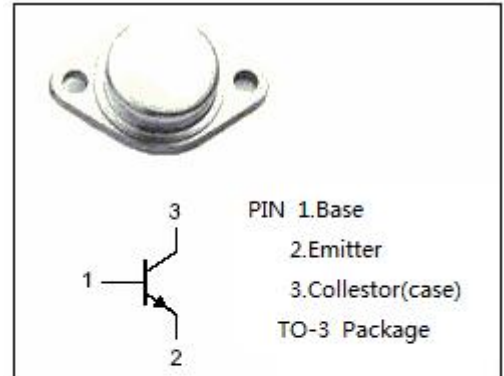
- Designed for high power audio, stepping motor and other linear applications. It can also be used in power switching circuits such as relay or solenoid drivers, DC-DC converters, inverters, or for inductive loads.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEV}	Collector-Emitter Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	15	A
I_B	Base Current	7	A
P_C	Collector Power Dissipation@ $T_C=25^{\circ}C$	115	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	1.52	$^{\circ}C/W$



ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CE0(SUS)}	Collector-Emitter Sustaining Voltage	I _C =50mA ; I _B = 0	60		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 = 7A		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} = 30V; I _B = 0		0.7	mA
I _{CEX}	Collector Cutoff Current	V _{CE} = 100V; V _{BE(off)} = 1.5V V _{CE} = 100V; V _{BE(off)} = 1.5V, T _C =150°C		5.0 30	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 7.0V; I _C = 0		5.0	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= 0.5s, Nonrepetitive	1.95		A
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f= 1.0MHz		600	pF
f _T	Current Gain-Bandwidth Product	I _C = 1A; V _{CE} = 4V; f= 1.0MHz	0.8		MHz

Switching Times

t _d	Delay Time	I _C = 4A; V _{CC} = 30V; I _{B1} = -I _{B2} = 0.4A, t _p = 25 μ s; Duty Cycle ≤ 2%		0.5	μ s
t _r	Rise Time			4.0	μ s
t _{stg}	Storage Time			3.0	μ s
t _f	Fall Time			6.0	μ s