

DESCRIPTION

- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 1.2V(\text{Max.}) @ I_C = 0.5A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 120V(\text{Min})$
- Wide Area of Safe Operation

APPLICATIONS

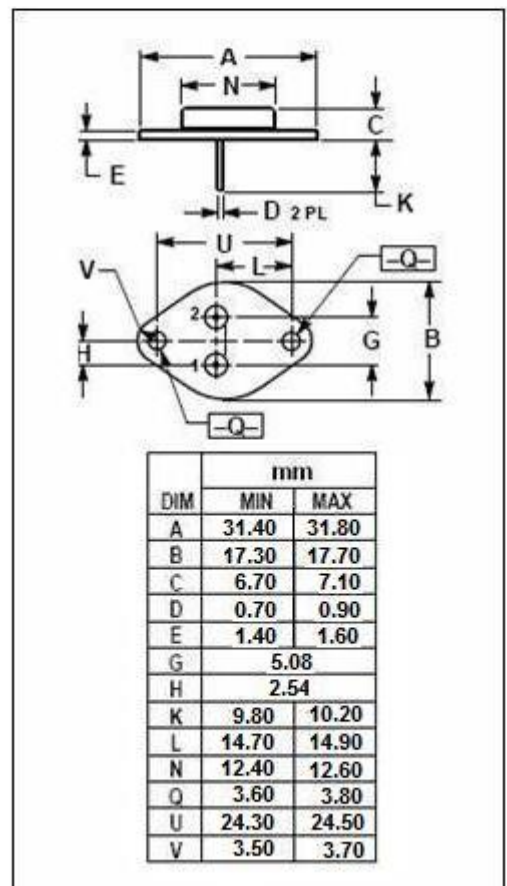
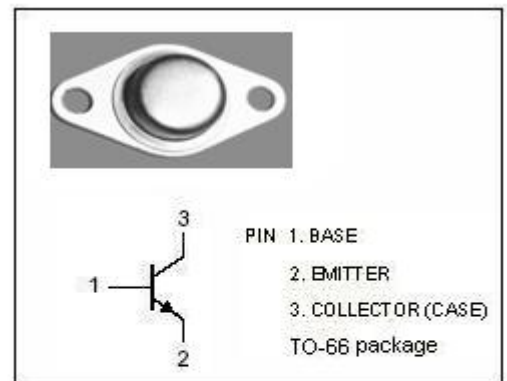
- Series and shunt regulators
- High-fidelity amplifiers
- Power switching circuits
- Solenoid drivers

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	140	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{CER}	Collector-Emitter Voltage $R_{BE} = 100 \Omega$	130	V
V_{CEV}	Collector-Emitter Voltage $V_{BE} = -1.5V$	140	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	3	A
I_{CM}	Collector Current-Peak	4	A
I_B	Base Current-Continuous	2	A
P_C	Collector Power Dissipation@ $T_C = 25^\circ C$	20	W
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature	-65~150	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	8.75	$^\circ C/W$



ELECTRICAL CHARACTERISTICS

$T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CE0(sus)}$	Collector-Emitter Sustaining Voltage	$I_C= 50\text{mA}; I_B= 0$	120		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 0.5\text{A}; I_B= 50\text{mA}$		1.2	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C= 0.5\text{A}; V_{CE}= 4\text{V}$		2.0	V
I_{CEO}	Collector Cutoff Current	$V_{CE}= 100\text{V}; I_B= 0$		5	mA
I_{CEX}	Collector Cutoff Current	$V_{CE}= 120\text{V}; V_{BE}= -1.5\text{V}$ $V_{CE}= 120\text{V}; V_{BE}= -1.5\text{V}, T_C=150^{\circ}\text{C}$		2.0 10	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}= 5\text{V}; I_C= 0$		2.0	mA
h_{FE-1}	DC Current Gain	$I_C= 0.5\text{A}; V_{CE}= 4\text{V}$	20	100	
h_{FE-2}	DC Current Gain	$I_C= 3\text{A}; V_{CE}= 2\text{V}$	3		
f_T	Current Gain-Bandwidth Product	$I_C= 0.2\text{A}; V_{CE}= 4\text{V}$	0.2		MHz
$I_{s/b}$	Second Breakdown Collector Current with Base Forward Biased	$V_{CE}= 120\text{V}, t= 1.0\text{s}, \text{Nonrepetitive}$	0.167		A