

Silicon NPN Power Transistor

2N5758

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CE(SUS)} = 100V(\text{Min.})$
- DC Current Gain- $h_{FE} = 25(\text{Min.})@I_C = 3A$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1.0V(\text{Max})@I_C = 3A$

APPLICATIONS

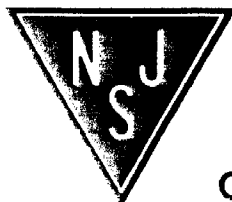
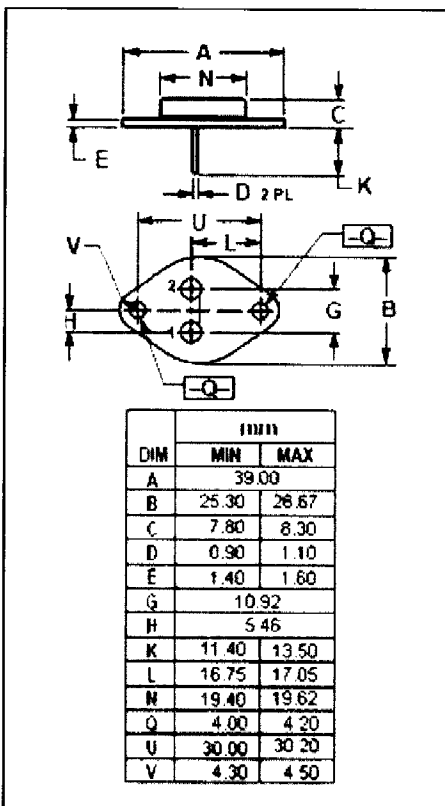
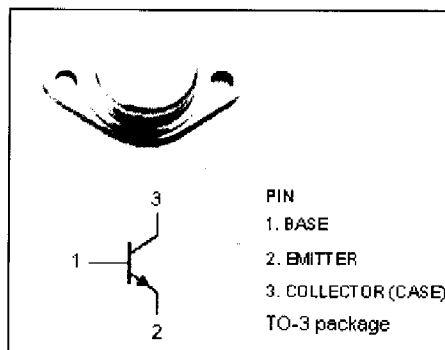
- Designed for use in high power audio amplifier applications and high voltage switching regulator circuits.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	6	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current	4	A
P_C	Collector Power Dissipation@ $T_C=25^\circ C$	150	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	1.17	$^\circ C/W$



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Quality Semi-Conductors

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C= 200\text{mA}$; $I_B= 0$	100		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C= 3\text{A}$; $I_B= 0.3\text{A}$		1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C= 6\text{A}$; $I_B= 1.2\text{A}$		2.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C= 3\text{A}$; $V_{CE}= 2\text{V}$		1.5	V
I_{CEO}	Collector Cutoff Current	$V_{CE}= 50\text{V}$; $I_B= 0$		1.0	mA
I_{CEX}	Collector Cutoff Current	$V_{CE}= 100\text{V}$; $V_{BE(off)}= -1.5\text{V}$ $V_{CE}= 100\text{V}$; $V_{BE(off)}= -1.5\text{V}$, $T_C=150^\circ\text{C}$		1.0 5.0	mA
I_{CBO}	Collector Cutoff Current	$V_{CB}= 100\text{V}$; $I_E= 0$		1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}= 7.0\text{V}$; $I_C= 0$		1.0	mA
h_{FE-1}	DC Current Gain	$I_C= 3\text{A}$; $V_{CE}= 2\text{V}$	25	100	
h_{FE-2}	DC Current Gain	$I_C= 6\text{A}$; $V_{CE}= 2\text{V}$	5		
f_T	Current Gain-Bandwidth Product	$I_C= 0.5\text{A}$; $V_{CE}= 20\text{V}$; $f= 0.5\text{MHz}$	1.0		MHz
C_{OB}	Output Capacitance	$I_E= 0$; $V_{CB}= 10\text{V}$; $f_{test}= 0.1\text{MHz}$		300	pF