

Silicon NPN Power Transistor

2N6751

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
 : $V_{CE0(SUS)} = 400(\text{Min.})$
- High Switching Speed
- Low Collector Saturation Voltage
- Wide Area of Safe Operation

APPLICATIONS

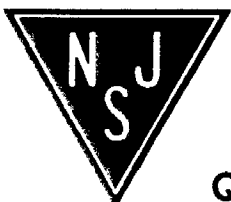
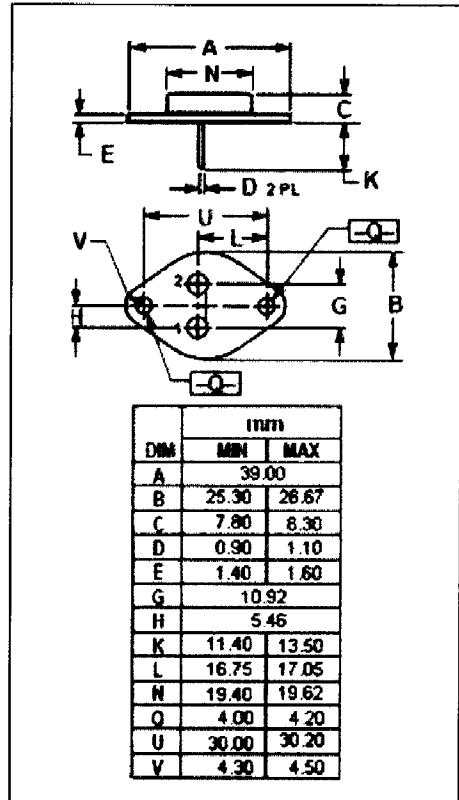
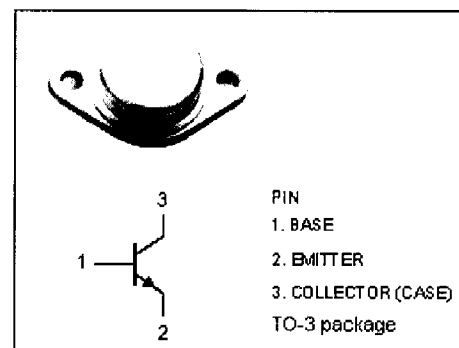
- Off-line power supplies
- High-voltage inverters
- Switching regulators

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEV}	Collector-Emitter Voltage	800	V
$V_{CEX(SUS)}$	Collector-Emitter Voltage	450	V
$V_{CE0(SUS)}$	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current-Continuous	5	A
P_C	Collector Power Dissipation@ $T_C = 25^\circ\text{C}$	150	W
T_J	Junction Temperature	175	$^\circ\text{C}$
T_{stg}	Storage Temperature	-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.0	$^\circ\text{C/W}$



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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	$I_C=200\text{mA}; I_B=0$	400		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=1\text{A}$		1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=3\text{A}$		3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=1\text{A}$		1.3	V
I_{CEV}	Collector Cutoff Current	$V_{CE}=800\text{V}; V_{BE}=-1.5\text{V}$ $V_{CE}=800\text{V}; V_{BE}=-1.5\text{V}; T_C=100^\circ\text{C}$		0.1 1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=8\text{V}; I_C=0$		2.0	mA
h_{FE}	DC Current Gain	$I_C=5\text{A}; V_{CE}=3\text{V}$	8	40	
f_T	Current Gain-Bandwidth Product	$I_C=0.2\text{A}; V_{CE}=10\text{V}$	15	60	MHz
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f=0.1\text{MHz}$	50	250	pF

Switching times-Resistive Load

t_d	Delay Time	$I_C=5\text{A}; I_{B1}=-I_{B2}=1\text{A}; V_{CC}=250\text{V};$ $V_{BE}=-6\text{V}; t_p=20\mu\text{s}$		0.1	μs
t_r	Rise Time			0.4	μs
t_s	Storage Time			3.0	μs
t_f	Fall Time			0.4	μs