

**Silicon NPN Power Transistor**

**2N6752**

**DESCRIPTION**

- Collector-Emitter Sustaining Voltage-  
 :  $V_{CEO(SUS)} = 450(\text{Min.})$
- High Switching Speed
- Low Collector Saturation Voltage
- Wide Area of Safe Operation

**APPLICATIONS**

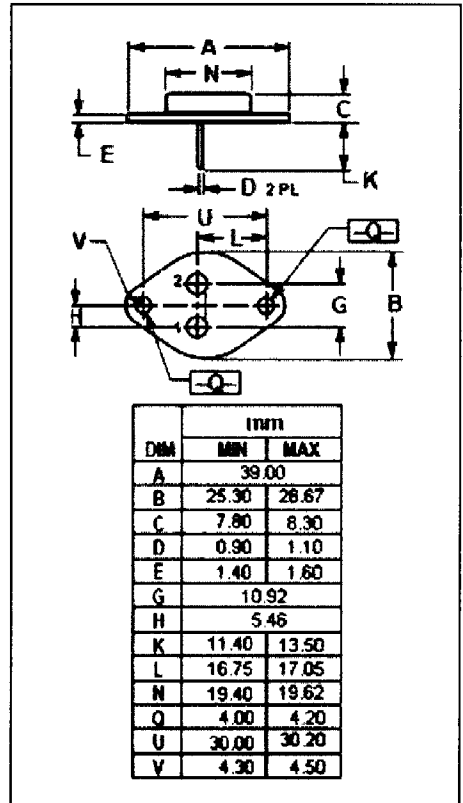
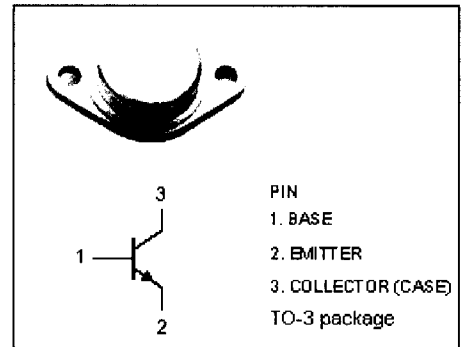
- Off-line power supplies
- High-voltage inverters
- Switching regulators

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

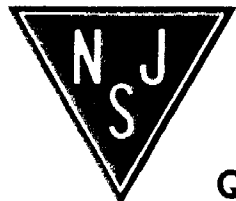
SYMBOL	PARAMETER	VALUE	UNIT
$V_{CEV}$	Collector-Emitter Voltage	850	V
$V_{CEX(SUS)}$	Collector-Emitter Voltage	500	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	450	V
$V_{EBO}$	Emitter-Base Voltage	8	V
$I_C$	Collector Current-Continuous	10	A
$I_{CM}$	Collector Current-Peak	10	A
$I_B$	Base Current-Continuous	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	$I_C=200\text{mA}; I_B=0$	450		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	$V_{CE}=850\text{V}; V_{BE}=-1.5\text{V}$ $V_{CE}=850\text{V}; V_{BE}=-1.5\text{V}; T_C=100^\circ\text{C}$		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	$\mu\text{s}$
$t_r$	Rise Time			0.4	$\mu\text{s}$
$t_s$	Storage Time			3.0	$\mu\text{s}$
$t_f$	Fall Time			0.4	$\mu\text{s}$