

Silicon NPN Power Transistors

BUY70A

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CE(SUS)} = 400V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 5.0V(\text{Max.}) @ I_C = 4A$

APPLICATIONS

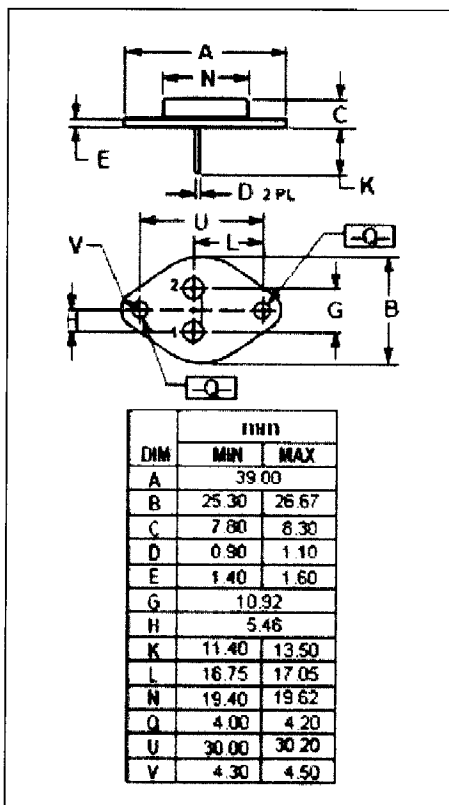
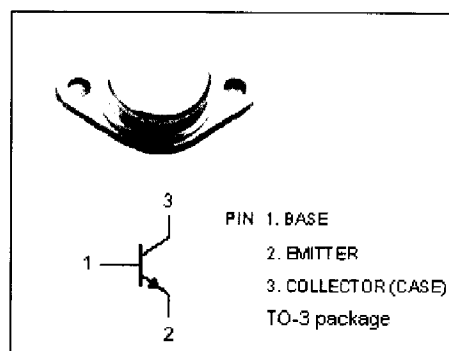
- Designed for switching mode power supplies, inverters, and CRT scanning systems.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	1000	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-peak	15	A
I_B	Base Current-Continuous	3.0	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	75	W
T_j	Junction Temperature	200	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.3	$^\circ\text{C/W}$



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Silicon NPN Power Transistors**BUY70A****ELECTRICAL CHARACTERISTICS** **$T_C=25^{\circ}\text{C}$ unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}$; $I_B=0$	400			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=1\text{mA}$; $I_E=0$	1000			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=10\text{mA}$; $I_C=0$	8			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}$; $I_B=0.8\text{A}$			5.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=4\text{A}$; $I_B=0.8\text{A}$			1.5	V
I_{CEX}	Collector Cutoff Current	$V_{CE}=1000\text{V}$; $V_{BE}=-2\text{V}$			1.0	mA
h_{FE}	DC Current Gain	$I_C=1\text{A}$; $V_{CE}=10\text{V}$	15			
f_T	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}$; $V_{CE}=10\text{V}$		6		MHz
C_{OB}	Collector Output Capacitance	$I_E=0$; $V_{CB}=20\text{V}$			150	pF
t_f	Fall Time	$I_C=4\text{A}$; $I_{B1}=-I_{B2}=0.8\text{A}$; $V_{CC}=40\text{V}$			1.0	μs