

**isc Silicon NPN Power Transistor**

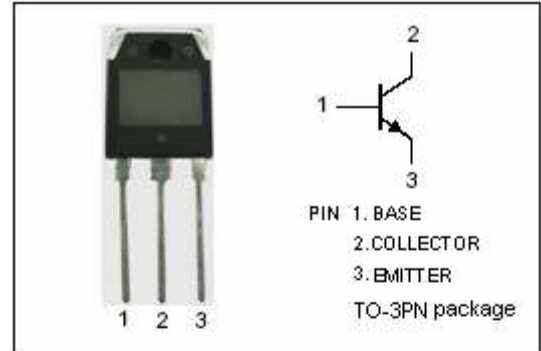
**BUV70**

**DESCRIPTION**

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 600V$  (Min)
- High Power Dissipation
- Fast Switching Speed

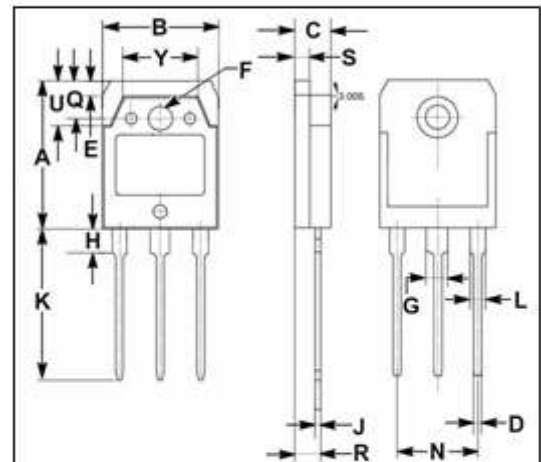
**APPLICATIONS**

- Designed for motor controls, switching mode power supplies applications.



**Absolute maximum ratings(Ta=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CES}$	Collector-Emitter Voltage	1300	V
$V_{CEO}$	Collector-Emitter Voltage	600	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current-Continuous	10	A
$I_{CM}$	Collector Current-Peak	15	A
$I_B$	Base Current-Continuous	3	A
$I_{BM}$	Base Current-peak	6	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ C$	140	W
$T_j$	Junction Temperature	150	°C
$T_{stg}$	Storage Temperature Range	-65~150	°C



DIM	mm	
	MIN	MAX
A	19.90	20.10
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.10
H	3.20	3.40
J	0.595	0.605
K	20.50	20.70
L	1.90	2.10
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.005
U	5.90	6.10
Y	9.90	10.10

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.89	°C/W

## isc Silicon NPN Power Transistor

## BUV70

## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN		MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=100\text{mA}; L_C=125\text{mH}$	600			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}; I_C=0$	6			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=9\text{A}; I_B=3\text{A}$			1.8	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=9\text{A}; I_B=3\text{A}$			2.0	V
$I_{CES}$	Collector Cutoff Current	$V_{CE}=1300\text{V}; V_{BE}=0$ $V_{CE}=1200\text{V}; V_{BE}=0; T_C=125^{\circ}\text{C}$			1.0 2.0	mA
$h_{FE-1}$	DC Current Gain	$I_C=3.2\text{A}; V_{CE}=2\text{V}$	5			
$h_{FE-2}$	DC Current Gain	$I_C=1.5\text{A}; V_{CE}=5\text{V}$	7			
$h_{FE-3}$	DC Current Gain	$I_C=6\text{A}; V_{CE}=2\text{V}$	5			
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=10\text{V}; f=1\text{MHz}$		9		MHz

Switching times Resistive Load

$t_{on}$	Turn-on Time	$I_C=5\text{A}; I_{B1}=-I_{B2}=1\text{A};$ $V_{CC}=250\text{V}; t_p=20\mu\text{s}$			0.5	$\mu\text{s}$
$t_s$	Storage Time				4.0	$\mu\text{s}$
$t_f$	Fall Time				0.6	$\mu\text{s}$