

**isc Silicon NPN Power Transistor**

**BUX77A**

**DESCRIPTION**

- Continuous Collector Current- $I_C= 8A$
- Collector Power Dissipation-  
:  $P_C= 50W @T_C= 25^{\circ}C$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)}= 80V(\text{Min})$

**APPLICATIONS**

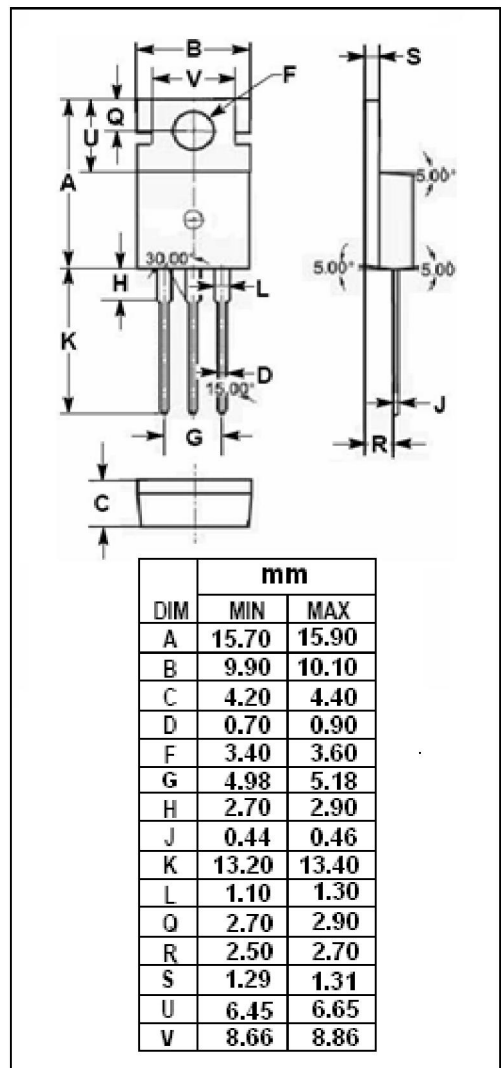
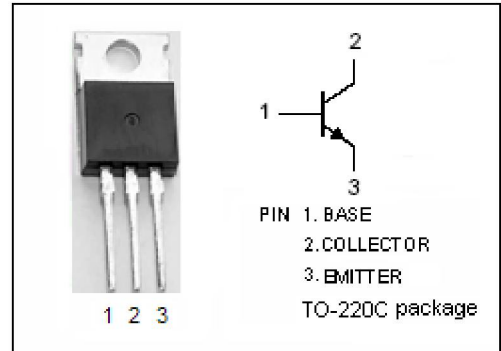
- Designed for use in switching regulators and general purpose power amplifiers.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	100	V
$V_{CEO}$	Collector-Emitter Voltage	80	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current-Continuous	8	A
$I_B$	Base Current-Continuous	2	A
$P_C$	Collector Power Dissipation@ $T_C=25^{\circ}C$	50	W
$T_J$	Junction Temperature	200	$^{\circ}C$
$T_{stg}$	Storage Temperature	-65~175	$^{\circ}C$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.5	$^{\circ}C/W$



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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	$I_C= 50\text{mA}; I_B= 0$	80		V
$V_{CES}$	Collector-Emitter Voltage	$I_C= 2\text{mA}; V_{BE}= 0$	100		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	$I_C= 5\text{A}; I_B= 0.5\text{A}$		1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C= 5\text{A}; I_B= 0.5\text{A}$		1.3	V
$I_{CEO}$	Collector Cutoff Current	$V_{CE}= 60\text{V}; I_B= 0$		10	$\mu\text{A}$
$I_{CBO}$	Collector Cutoff Current	$V_{CB}= 80\text{V}; I_E= 0$ $V_{CB}= 80\text{V}; I_E= 0, T_C=150^\circ\text{C}$		0.5 150	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}= 4\text{V}; I_C= 0$		0.5	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C= 0.5\text{A}; V_{CE}= 5\text{V}$	70		
$h_{FE-2}$	DC Current Gain	$I_C= 2\text{A}; V_{CE}= 5\text{V}$	50		120
$h_{FE-3}$	DC Current Gain	$I_C= 5\text{A}; V_{CE}= 5\text{V}$	30		
$h_{FE-4}$	DC Current Gain	$I_C= 1\text{A}; V_{CE}= 5\text{V}; T_C= -40^\circ\text{C}$	25		
$f_T$	Current-Gain—Bandwidth Product	$I_C= 0.5\text{A}; V_{CE}= 5\text{V}$	1.5		MHz

Switching Times

$t_r$	Rise Time	$I_C= 5\text{A}; I_{B1}= -I_{B2}= 0.5\text{A}; V_{CC}= 40\text{V}$		0.2	$\mu\text{s}$
$t_s$	Storage Time			2.0	$\mu\text{s}$
$t_f$	Fall Time			0.2	$\mu\text{s}$