

**isc Silicon NPN Power Transistor**
**BUS46P**
**DESCRIPTION**

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 450V(\text{Min.})$
- High Speed Switching
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

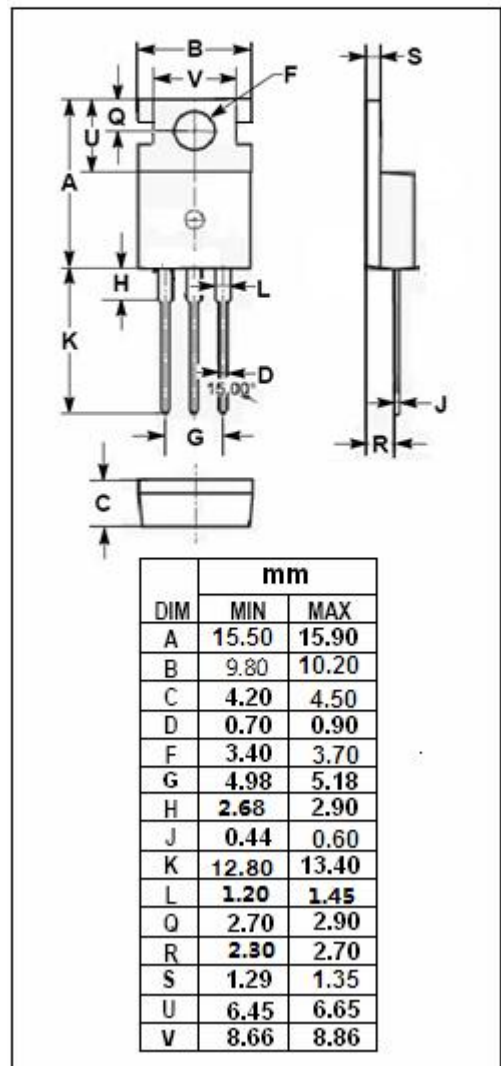
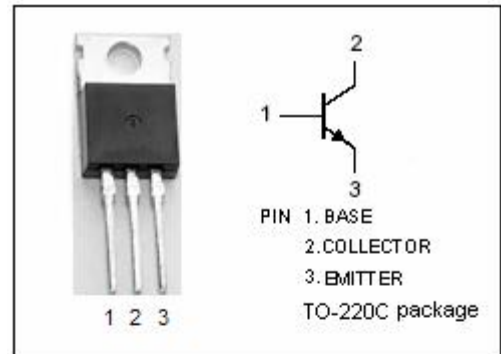
- Designed for high voltage, fast switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	850	V
$V_{CEO}$	Collector-Emitter Voltage	450	V
$V_{EBO}$	Emitter-Base Voltage	9	V
$I_C$	Collector Current-Continuous	5	A
$I_{CM}$	Collector Current-Peak	10	A
$I_B$	Base Current	2	A
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	80	W
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.25	$^\circ\text{C/W}$



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## BUS46P

## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}; I_B=0$	450			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}; I_C=0$	9			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2.5\text{A}; I_B=0.5\text{A}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=2.5\text{A}; I_B=0.5\text{A}$			1.3	V
$I_{CES}$	Collector Cutoff Current	$V_{CE}=\text{Rated } V_{CES}; V_{BE}=0$ $V_{CE}=\text{Rated } V_{CES}; V_{BE}=0; T_C=125^{\circ}\text{C}$			0.1 1.0	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=9\text{V}; I_C=0$			1.0	mA

## Switching Times

$t_{on}$	Turn-on Time	$I_C=2.5\text{A}; I_{B1}=-I_{B2}=0.5\text{A}; V_{CC}=150\text{V}$			1.0	$\mu\text{s}$
$t_s$	Storage Time				3.0	$\mu\text{s}$
$t_f$	Fall Time				0.8	$\mu\text{s}$

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