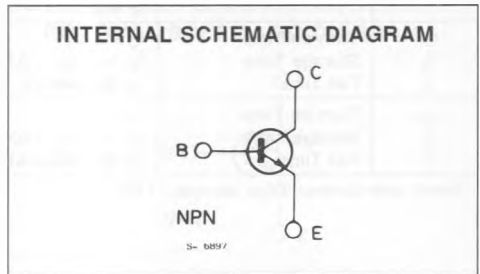
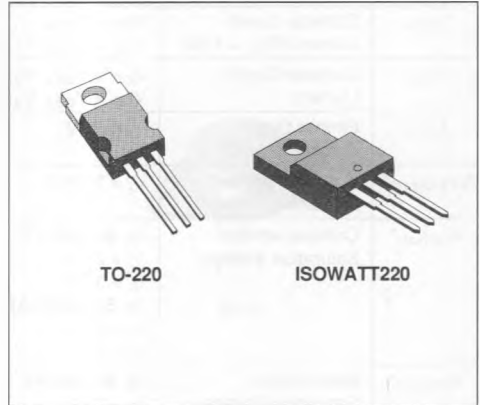




**HIGH VOLTAGE POWER SWITCH**

**DESCRIPTION**

The BUV46/A and BUV46FI/AFI are silicon multi-epitaxial mesa NPN transistors in the jedec TO-220 plastic package and ISOWATT220 fully isolated package respectively, intended for high voltage, fast switching applications.



**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	TO-220 ISOWATT220	BUV46 BUV46FI	BUV46A BUV46AFI	Unit
$V_{CES}$	Collector-emitter Voltage ( $V_{BE} = 0$ )		850	1000	V
$V_{CEX}$	Collector-emitter Voltage ( $V_{BE} = -2.5V$ )		850	1000	V
$V_{CEO}$	Collector-emitter Voltage ( $I_B = 0$ )		400	450	V
$V_{EBO}$	Emitter-base Voltage ( $I_C = 0$ )		7		V
$I_C$	Collector Current		5		A
$I_B$	Base Current		3		A
			<b>TO-220</b>	<b>ISOWATT220</b>	
$P_{Tot}$	Total Power Dissipation at $T_c < 25^\circ C$		70	30	W
$T_{sig}$	Storage Temperature		- 65 to 150		$^\circ C$
$T_j$	Max. Operating Junction Temperature		150		$^\circ C$

**THERMAL DATA**

			<b>TO-220</b>	<b>ISOWATT220</b>	
$R_{th(j-case)}$	Thermal Resistance Junction-case	max	1.76	4.12	°C/W

**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25^{\circ}C$  unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CER}$	Collector Cutoff Current ( $R_{BE} = 10\Omega$ )	$V_{CE} = V_{CEX}$			0.1	mA
		$V_{CE} = V_{CEX} T_c = 125^{\circ}C$			1	mA
$I_{CEX}$	Collector Cutoff Current	$V_{CE} = V_{CEX} V_{BE} = -2.5V$			0.3	mA
		$V_{CE} = V_{CEX} V_{BE} = -2.5V T_c = 125^{\circ}C$			2	mA
$I_{EBO}$	Emitter Cutoff Current ( $I_C = 0$ )	$V_{EB} = 7V$			1	mA
$V_{CEO(sus)}^*$	Collector-emitter Sustaining Voltage	$I_C = 100mA$				V
		for <b>BUV46/FI</b> for <b>BUV46A/AFI</b>	400 450			V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	for <b>BUV46/FI</b>				
		$I_C = 2.5A$ $I_B = 0.5A$			1.5	V
		$I_C = 3.5A$ $I_B = 0.7A$			5	V
		for <b>BUV46A/AFI</b>				
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 2A$ $I_B = 0.4A$			1.5	V
		$I_C = 3A$ $I_B = 0.6A$			5	V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	for <b>BUV46/FI</b>				
		$I_C = 2.5A$ $I_B = 0.5A$			1.3	V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	for <b>BUV46A/AFI</b>				
		$I_C = 2A$ $I_B = 0.4A$			1.3	V
$t_{on}$ $t_s$ $t_f$	Turn-on Time Storage Time Fall Time	$I_C = 2.5A$ $V_{CC} = 150V$			1	$\mu s$
		$I_{B1} = -I_{B2} = 0.5A$			3	$\mu s$
		for <b>BUV46/FI</b>			0.8	$\mu s$
$t_{on}$ $t_s$ $t_f$	Turn-on Time Storage Time Fall Time	$I_C = 2A$ $V_{CC} = 150V$			1	$\mu s$
		$I_{B1} = -I_{B2} = 0.4A$			3	$\mu s$
		for <b>BUV46A/AFI</b>			0.8	$\mu s$

\* Pulsed : pulse duration = 300 $\mu s$ , duty cycle = 1.5%