

**BUV18  
BUV19**

**NPN HIGH CURRENT  
SWITCHING TRANSISTORS**

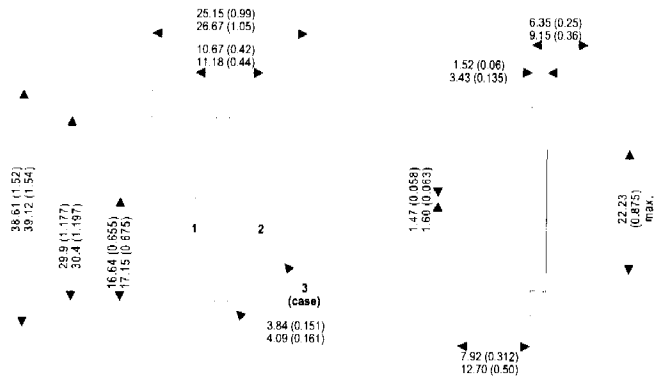
Designed for high energy applications  
requiring robust fast switching devices

**FEATURES**

- Fast Switching
- Low VCE(SAT)
- High Switching Currents
- High Reliability
- Military Options Available

**APPLICATIONS**

- High Efficiency Converters
- Motor Drive Control
- Switching Regulator



**TO-3 (TO-204AE)**

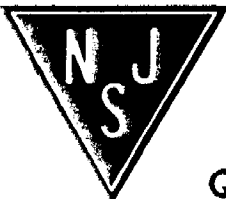
Pin 1 – Gate    Pin 2 – Drain    Case – Source

**ABSOLUTE MAXIMUM RATINGS**

(T<sub>case</sub> = 25°C unless otherwise stated)

		<b>BUV18</b>	<b>BUV19</b>
V <sub>CBO</sub>	Collector-Emitter Voltage (I <sub>E</sub> =0)	120V	160V
V <sub>CEO</sub>	Collector-Emitter voltage (I <sub>B</sub> =0)	60V	80V
V <sub>EBO</sub>	Emitter- Base Voltage (I <sub>C</sub> =0)	7V	7V
I <sub>C</sub>	Collector Current	50A	50A
I <sub>C(PK)</sub>	Peak Collector Current	90A	70A
I <sub>B</sub>	Base Current	16A	12A
I <sub>B(PK)</sub>	Peak Base Current	40A	30A
P <sub>TOT</sub>	Total Dissipation @ T <sub>case</sub> = 25°C	250W	
T <sub>stg</sub>	Storage Temperature Range	-65 to 200°C	
T <sub>j</sub>	Maximum Operating Junction Temperature	200°C	
R <sub>θJC</sub>	Thermal Resistance Junction – Case	Max 0.7°C/W	

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# BUV18 BUV19

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{CEO(sus)}$ * Collector – Emitter Sustaining Voltage	$I_B = 0$ $I_C = 0.2A$ <b>BUV18</b> L = 25mH	60			V
	$I_B = 0$ $I_C = 0.2A$ <b>BUV19</b> L = 25mH	80			V
$V_{CE(sat)}$ * Collector – Emitter Saturation Voltage	$I_C = 40A$ $I_B = 4A$ <b>BUV18</b>			0.6	V
	$I_C = 80A$ $I_B = 8A$			1.5	V
	$I_C = 30A$ $I_B = 3A$ <b>BUV19</b>			0.6	V
$V_{BE(sat)}$ * Base – Emitter Saturation Voltage	$I_C = 60A$ $I_B = 6A$			1.2	V
	$I_C = 80A$ $I_B = 8A$ <b>BUV18</b>			2.2	V
$V_{(BR)EBO}$ Emitter – Base Breakdown Voltage	$I_C = 60A$ $I_B = 6A$ <b>BUV19</b>			2.0	V
	$I_C = 0A$ $I_E = 50mA$	7			V
$I_{CEX}$ Collector Cut-Off Current	$V_{BE} = -1.5V$ $V_{CE} = V_{CEX}$ $T_{case} = 100^{\circ}C$			1.0	mA
$I_{EBO}$ Emitter Cut-Off Current	$I_C = 0A$ $V_{EB} = 5V$			3.0	mA
<b>SWITCHING CHARACTERISTICS</b>					
$f_T$ Transition Frequency	f = 10MHz $V_{CE} = 15V$ $I_C = 2A$	8			MHz
$t_{on}$ Turn-On Time	$V_{CC} = 60V$ <b>BUV18</b>		1.2	1.5	
$t_r$ Fall Time	$I_C = 80A$		0.18	0.25	
$t_s$ Storage Time	$I_{B1} = -I_{B2} = 8A$		0.6	1.1	$\mu s$
$t_{on}$ Turn-On Time	$V_{CC} = 80V$ <b>BUV19</b>		0.9	1.3	
$t_r$ Fall Time	$I_C = 60A$		0.17	0.25	
$t_s$ Storage Time	$I_{B1} = -I_{B2} = 6A$		0.6	1.1	

### NOTES

\* Pulse Test:  $t_p = 300\mu s$ ,  $\delta \leq 2\%$