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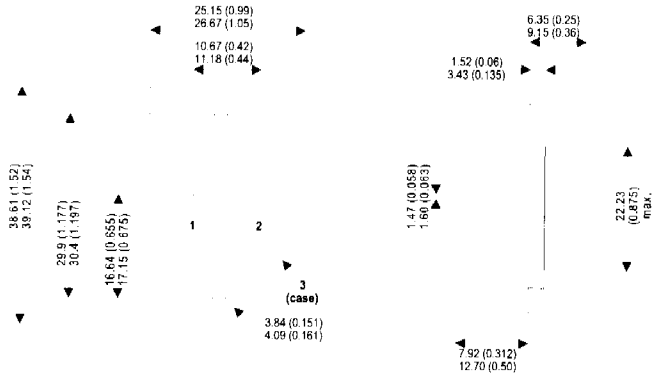
BUV18
BUV19

NPN HIGH CURENT SWITCHING TRANSISTORS

Designed for high energy applications requiring robust fast switching devices



TO–3 (TO-204AE)

Pin 1 – Gate Pin 2 – Drain Case – Source

FEATURES

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

APPLICATIONS

- **High Efficiency Converters**
- **Motor Drive Control**
- **Switching Regulator**

ABSOLUTE MAXIMUM RATINGS

(T_{case} = 25°C unless otherwise stated)		BUV18	BUV19
V_{CBO}	Collector-Emitter Voltage (I_E=0)	120V	160V
V_{CEO}	Collector-Emitter voltage (I_B=0)	60V	80V
V_{EBO}	Emitter- Base Voltage (I_C=0)	7V	7V
I_C	Collector Current	50A	50A
$I_{C(PK)}$	Peak Collector Current	90A	70A
I_B	Base Current	16A	12A
$I_{B(PK)}$	Peak Base Current	40A	30A
P_{TOT}	Total Dissipation @ T_{case} = 25°C	250W	
T_{stg}	Storage Temperature Range	-65 to 200°C	
T_j	Maximum Operating Junction Temperature	200°C	
$R_{\theta JC}$	Thermal Resistance Junction – Case	Max 0.7°C/W	

ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

Parameter		Test Conditions			Min.	Typ.	Max.	Unit
$V_{CEO(sus)}$*	Collector – Emitter Sustaining Voltage	I_B = 0 L = 25mH	I_C = 0.2A	**BUV18**	60			V
		I_B = 0 L = 25mH	I_C = 0.2A	**BUV19**	80			
$V_{CE(sat)}$*	Collector – Emitter Saturation Voltage	I_C = 40A	I_B = 4A	**BUV18**			0.6	V
		I_C = 80A	I_B = 8A				1.5	
		I_C = 30A	I_B = 3A	**BUV19**			0.6	
		I_C = 60A	I_B = 6A				1.2	
$V_{BE(sat)}$*	Base – Emitter Saturation Voltage	I_C = 80A	I_B = 8A	**BUV18**			2.2	V
		I_C = 60A	I_B = 6A	**BUV19**			2.0	
$V_{(BR)EBO}$	Emitter – Base Breakdown Voltage	I_C = 0A	I_E = 50mA		7			V
I_{CEX}	Collector Cut-Off Current	V_{BE} = -1.5V	V_{CE} = V_{CEX}				1.0	mA
			T_{case} = 100°C				3.0	
I_{EBO}	Emitter Cut-Off Current	I_C = 0A	V_{EB} = 5V				1.0	
	SWITCHING CHARACTERISTICS							
f_T	Transition Frequency	f = 10MHz	V_{CE} = 15V	I_C=2A	8			MHz
t_{on}	Turn–On Time	V_{CC} = 60V		**BUV18**		1.2	1.5	µs
t_r	Fall Time	I_C = 80A				0.18	0.25	
t_s	Storage Time	I_{B1} = -I_{B2} = 8A				0.6	1.1	
t_{on}	Turn–On Time	V_{CC} = 80V		**BUV19**		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 = 300µs, $\delta \leq 2\%$