

DEC 31 1987

SEMELAB

T-39-13

SMLB

AET BUP 60

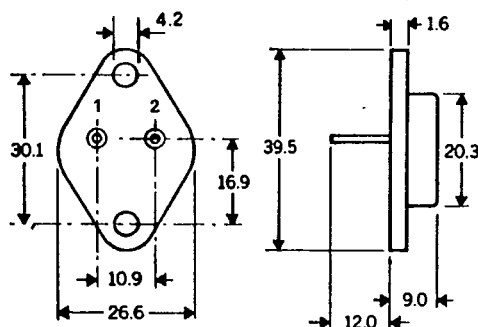
TR07 1400 AET BUP 62

MECHANICAL DATA

Dimensions in mm

MOS POWER

N-Channel Enhancement Mode



APPLICATIONS

- SWITCHING REGULATORS
- CONVERTERS
- MOTOR DRIVERS

PIN 1 - Gate PIN 2 - Source CASE - Drain

T03 Thin

ABSOLUTE MAXIMUM RATINGS ($T_{CASE} = 25^{\circ}\text{C}$ unless otherwise specified)

Parameter	BUP 60	BUP 62
V_{DS} Drain source voltage	350V	400V
V_{DGR} Drain gate voltage ($R_{GS} = 1\text{ M}\Omega$)	350V	400V
$I_D @ T_C = 25^{\circ}\text{C}$ Continuous drain current	$\pm 6.80\text{A}$	
$I_D @ T_C = 100^{\circ}\text{C}$ Continuous drain current	$\pm 4.81\text{A}$	
I_{DM} Pulsed drain current (i)	$\pm 16\text{A}$	
V_{GS} Gate-source voltage	$\pm 40\text{V}$	
$P_D @ T_C = 25^{\circ}\text{C}$ Maximum power dissipation	125W	
$P_D @ T_C = 100^{\circ}\text{C}$ Maximum power dissipation	62.5W	
Junction to case Linear derating factor	0.833 W/ $^{\circ}\text{C}$	
Junction to ambient Linear derating factor	0.03 W/ $^{\circ}\text{C}$	
T_J Operating and	-55 to 175°C	
T_{stg} storage temperature range		
Lead temperature (1/16" from case for 10 secs.)	300 $^{\circ}\text{C}$	

(i) Pulse test: Pulse width $\leq 300\mu\text{sec}$, duty cycle $\leq 2\%$

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BUP 60 BUP 62

SEMELAB**ELECTRICAL CHARACTERISTICS (T_{CASE} = 25°C unless otherwise specified)****STATIC**

Parameter	Type	Min.	Typ.	Max.	Units	Test Conditions
BV _{DSS} Drain-Source Breakdown Voltage	BUP62	400	420		V	V _{GS} = 0 I _D = 1 mA
	BUP60	350	370		V	
V _{GS(th)} Gate-Threshold Voltage	All	3	4	6	V	V _{DS} = V _{GS} , I _D = 1 mA
I _{GSSF} Gate-Body Leakage Forward	All		1	100	nA	V _{GS} = +30V
I _{GSSR} Gate-Body Leakage Reverse	All		-1	-100	nA	V _{GS} = -30V
I _{DSS} Zero Gate Voltage Drain Current	All		0,05	1	mA	V _{DS} = Max. Rating, V _{GS} = 0
	All		0,13	2,5	mA	V _{DS} = Max. Rating, V _{GS} = 0 T _C = 150°C
I _{D(on)} On-State Drain Current ¹	All	8	13		A	V _{DS} > 2V _{DS(ON)} , V _{GS} = 10V
V _{DS(on)} Static Drain-Source On State Voltage ¹	All		2,4	3	V	V _{GS} = 10V, I _D = 3A
R _{DS(on)} Static Drain-Source On State Resistance ¹	All		0,8	1	Ω	V _{GS} = 10V, I _D = 3A
R _{DS(on)} Static Drain-Source On State Resistance ¹	All		1,6	2	Ω	V _{GS} = 10V, I _D = 3A, T _C = 125°C

DYNAMIC

g _{fs} Forward Transconductance ¹	All	2,5	3,5		S (1/Ω)	V _{DS} = 2V _{DS(ON)} , I _D = 3A
C _{iss} Input Capacitance	All		840	1000	pF	V _{GS} = 0, V _{DS} = 25V
C _{oss} Output Capacitance	All		150	220	pF	f = 1 MHz
C _{rss} Reverse Transfer Capacitance	All		30	40	pF	
t _{d(on)} Turn On Delay Time	All		15	50	ns	V _{DD} = 200V, I _D = 3A
t _r Rise Time	All		20	50	ns	R _g = 10Ω, R _L = 67Ω
t _{d(off)} Turn-Off Delay Time	All		50	100	ns	(MOS FET switching times are essentially independent of operating temperature.)
t _f Fall Time	All		50	80	ns	

THERMAL RESISTANCE

R _{thJC} Junction-to-Case	All			1,2	C/W	
R _{thJA} Junction-to-Ambient	All			33,4	C/W	Free Air Operation

BODY-DRAIN DIODE RATINGS AND CHARACTERISTICS

I _S Continuous Source Current (Body Diode)	All			-6,8	A	Modified MOS POWER symbol showing the internal P-N junction rectifier. 
I _{SM} Source Current ¹ (Body Diode)	All			-16	A	
V _{SD} Diode Forward Voltage ¹	All		-0,9		V	T _C = 25°C, I _S = -6,8A, V _{GS} = 0
t _{rr} Reverse Recovery Time	All		400		ns	T _J = 150°C, I _F = I _S , dI _F /dt = 100 A/μs

¹ Pulse Test: Pulse Width ≤ 300 μsec, Duty Cycle = 2%**SEMELAB LTD., COVENTRY ROAD, LUTTERWORTH, LEICS. LE17 4JB**