PRODUCT SPECIFICATIONS

SEMICONDUCTOR TECHNOLOGY, INC.
3131 S. E. JAY STREET, STUART, FL 34997
PH: (561) 283-4500 FAX: (561) 286-8914
Website: http://www.semi-tech-inc.com

TYPE: MTM3N35

CASE OUTLINE: TO-204AA (TO-3)

HIGH VOLTAGE POWER MOSFET
N-CHANNEL

ABSOLUTE MAXIMUM RATING:

Drain – Source Voltage	V_{DSS}	350	Vdc
Drain – Gate Voltage	V_{DGR}	350	Vdc
Drain Current – Continuous	I_D	3.0	Adc
Drain Current – Pulsed	I_{DM}	8.0	Adc
Gate – Source Voltage	V_{GS}	±20	Vdc
Power Dissipation	P_D	75	Watts
Inductive Current	I_L		Adc
Operating and Storage Temperature	T_J & T_{stg}	-65 to +150	°C
Lead Temperature From Case	T_L	275	°C

ELECTRICAL CHARACTERISTICS TA @ 25°C

Parameters	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain Source Breakdown Voltage	BV_{DSS}	I_D = 5.0mA	350			Vdc
Gate Threshold Voltage	$V_{GS(th)}$	I_D = 1.0mA I_D = 1.0mA, T_J = 100°C	2.0 1.5		4.5 4.0	Vdc
Gate – Body Leakage Current	I_{GSS}	V_{GS} = 20V			500	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 350V VDS = 300V			0.25 2.5	mA
On State Drain Current	$I_{D(on)}$					Adc
Drain Source On Resistance	$r_{DS(on)}$	V_{GS} = 10V, I_D = 1.5A,			3.3	Ohms
Forward Transconductance	g_{FS}	V_{DS} = 15V, I_D = 1.5A,	0.75			mhos
Drain-Source On-Voltage	$V_{DS(on)}$	I_D = 1.5A I_D = 1.5A, T_J = 100°C			5.0 10	Vdc Vdc
Drain Source On-Voltage	$V_{DS(on)}$	I_D = 3.0A			12	Vdc
Input Capacitance	C_{iss}	V_{DS} = 25V, f = 1 MHz			500	pF
Output Capacitance	C_{oss}				100	pF
Reverse Transfer Capacitance	C_{rss}				50	pF

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Drain Source Diode Characteristics		Symbol	Min	Typ	Max	Units
Forward On Voltage	I_S =3.0A	V_{SD}		1.0		Vdc
Reverse Recovery Time		t_{rr}		300		ns
Forward Turn-On Time		t_{on}				ns
Total Gate Charge		Q_g				nC
Gate – Source Charge		Q_{gs}				nC
Gate – Drain Charge		Q_{gd}				nC

Switching Characteristics		Symbol	Min	Typ	Max	Units
Turn-On Time		t_{on}				
Turn-Off Time		t_{off}				
Delay Time (Turn On)	V_{DS} = 125V, I_D = 1.5A, R_{gen} = 50Ω	$t_{d(on)}$			40	ns
Rise Time		t_r			60	ns
Delay Time (Turn Off)		$t_{d(off)}$			60	ns
Fall Time		t_f			30	ns

Thermal Characteristics	Symbol		Units
Junction To Case	$R_{\theta JC}$	1.67	°C/W
Junction To Ambient	$R_{\theta JA}$		°C/W
Internal Drain Inductance	L_d		nH
Internal Source Inductance	L_s		nH