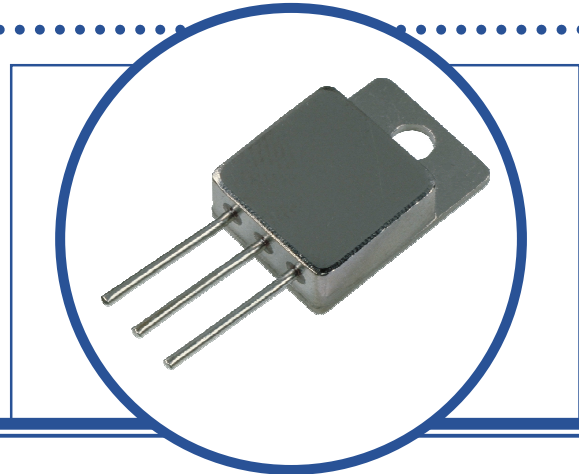


N-CHANNEL POWER MOSFET

IRFM360

- Low $R_{DS(on)}$ MOSFET Transistor
In A Isolated Hermetic Metal Package
- Designed For Switching, Power Supply,
Motor Control and Amplifier Applications
- Screening Options Available



ABSOLUTE MAXIMUM RATINGS ($T_C = 25^\circ\text{C}$ unless otherwise stated)

V_{DS}	Drain – Source Voltage		400V
V_{GS}	Gate – Source Voltage		$\pm 20\text{V}$
I_D	Continuous Drain Current	$T_C = 25^\circ\text{C}$	23A
I_D	Continuous Drain Current	$T_C = 100^\circ\text{C}$	14A
I_{DM}	Pulsed Drain Current ⁽¹⁾		92A
P_D	Total Power Dissipation at	$T_C = 25^\circ\text{C}$	250W
		Derate Above 25°C	$2.0\text{W}/^\circ\text{C}$
T_J	Junction Temperature Range		-55 to $+150^\circ\text{C}$
T_{stg}	Storage Temperature Range		-55 to $+150^\circ\text{C}$

THERMAL PROPERTIES

Symbols	Parameters	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case	0.5	$^\circ\text{C}/\text{W}$

Notes

- (1) Repetitive Rating: Pulse width limited by maximum junction temperature
- (2) Pulse Width $\leq 380\mu\text{s}$, $\delta \leq 2\%$
- (3) Parameters not measured but guaranteed by design

CAUTION BERYLLIA WARNING PER MIL-PRF-19500

Packages containing beryllia shall not be ground, sandblasted, machined or have other operations performed on them which will produce beryllia or beryllium dust. Furthermore, beryllium oxide packages shall not be placed in acids that will produce fumes containing beryllium.

Semelab Limited reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

N-CHANNEL POWER MOSFET IRFM360

ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise stated)

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 1.0\text{mA}$	400			V
$\frac{\Delta BV_{DSS}}{\Delta T_J}$	Temperature Coefficient of Breakdown Voltage	Reference to 25°C $I_D = 1.0\text{mA}$		0.46		$V/^\circ\text{C}$
$R_{DS(on)}^{(2)}$	Static Drain-Source On-State Resistance	$V_{GS} = 10\text{V}$ $I_D = 14\text{A}$			0.20	Ω
		$V_{GS} = 10\text{V}$ $I_D = 23\text{A}$			0.23	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$ $I_D = 250\mu\text{A}$	2.0		4.0	V
$g_{fs}^{(2)}$	Forward Transconductance	$V_{DS} > 15\text{V}$ $I_{DS} = 14\text{A}$	1.4			$\text{S}(\Omega)$
I_{DSS}	Zero Gate Voltage Drain Current	$V_{GS} = 0$ $V_{DS} = 320\text{V}$ $T_J = 125^\circ\text{C}$			25	μA
					250	
I_{GSS}	Forward Gate-Source Leakage	$V_{GS} = 20\text{V}$			100	nA
I_{GSS}	Reverse Gate-Source Leakage	$V_{GS} = -20\text{V}$			-100	

DYNAMIC CHARACTERISTICS

C_{iss}	Input Capacitance	$V_{GS} = 0$ $V_{DS} = 25\text{V}$ $f = 1.0\text{MHz}$		4200		pF
C_{oss}	Output Capacitance			900		
C_{rss}	Reverse Transfer Capacitance			400		
$Q_g^{(3)}$	Total Gate Charge	$V_{GS} = 10\text{V}$ $I_D = 23\text{A}$ $V_{DS} = 200\text{V}$			210	nC
$Q_{gs}^{(3)}$	Gate-Source Charge				28	
$Q_{gd}^{(3)}$	Gate-Drain Charge				120	
$L_S + L_D$	Total Inductance	Measured from drain lead (6mm/0.25in. from package) to source lead (6mm/0.25in. from package)		6.8		nH
$t_{d(on)}$	Turn-On Delay Time	$V_{DD} = 200\text{V}$ $I_D = 23\text{A}$ $V_{GS} = 15\text{V}$ $R_G = 2.2\Omega$			33	ns
t_r	Rise Time				140	
$t_{d(off)}$	Turn-Off Delay Time				120	
t_f	Fall Time				99	

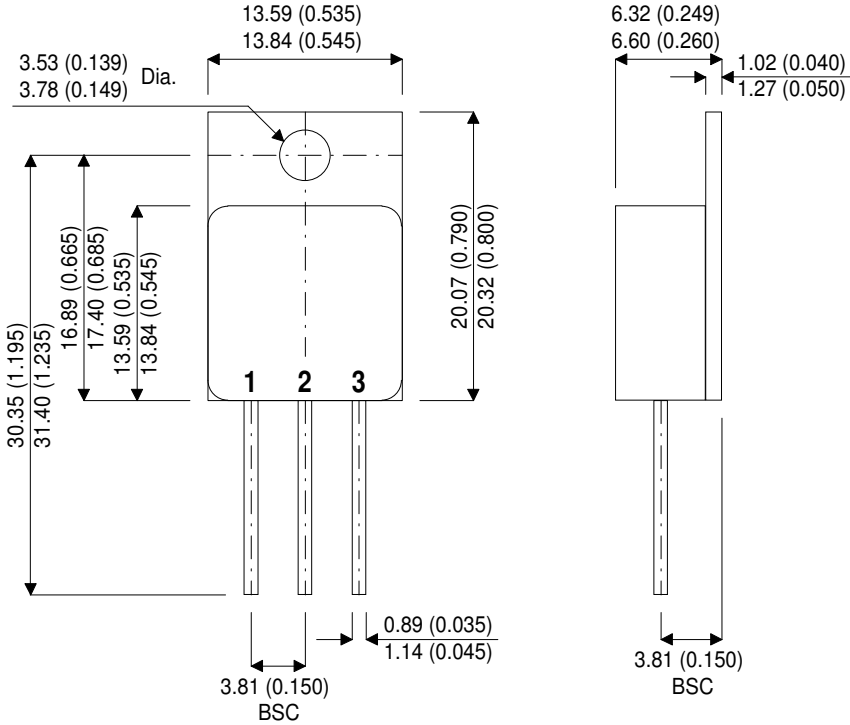
SOURCE-DRAIN DIODE CHARACTERISTICS

I_S	Continuous Source Current				23	A
$I_{SM}^{(1)}$	Pulse Source Current				92	
$V_{SD}^{(2)}$	Diode Forward Voltage	$I_S = 23\text{A}$ $T_J = 25^\circ\text{C}$ $V_{GS} = 0$			1.8	V
$t_{rr}^{(2)(3)}$	Reverse Recovery Time	$I_F = 23\text{A}$ $T_J = 25^\circ\text{C}$			1000	ns
$Q_{rr}^{(2)(3)}$	Reverse Recovery Charge	$V_{DD} \leq 50\text{V}$ $di/dt \leq 100\text{A}/\mu\text{s}$			16	μC

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TECHNICAL DATA

Dimensions in mm (inches)



TO-254AA

Pin 1 - Drain Pin 2 - Source Pin 3 - Gate