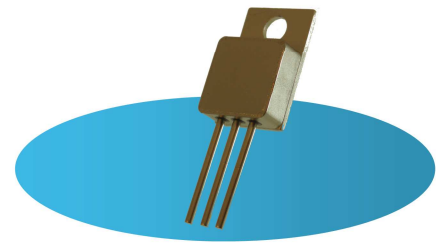


N-CHANNEL POWER MOSFET

IRFY340

- Hermetic TO220M (TO-257AB) Isolated Metal Package
- Simple Drive Requirements
- Designed For High Reliability 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 $T_C = 25^\circ\text{C}$	6.9A
I_D	Continuous Drain Current $T_C = 100^\circ\text{C}$	4.4A
I_{DM}	Pulsed Drain Current ⁽²⁾	27A
P_D	Total Power Dissipation at $T_C = 25^\circ\text{C}$	60W
	Derate Above 25°C	0.48W/ $^\circ\text{C}$
T_L	Lead Temperature (for 5 sec)	300 $^\circ\text{C}$
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	2.1	$^\circ\text{C/W}$

Notes

- (1) Pulse Width $\leq 380\mu\text{s}$, $\delta \leq 2\%$
- (2) Repetitive Rating: Pulse width limited by maximum junction temperature
- (3) By Design Only, Not A Production Test.

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.

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N-CHANNEL POWER MOSFET

IRFY340



ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ 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		$\text{V}/^\circ\text{C}$
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$ $I_D = 250\mu\text{A}$	2		4	V
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	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{GS} = 0$ $V_{DS} = 0.8 BV_{DSS}$			25	μA
		$T_J = 125^\circ\text{C}$			250	
$R_{DS(on)}^{(1)}$	Static Drain-Source On-State Resistance	$V_{GS} = 10\text{V}$ $I_D = 4.4\text{A}$			0.55	Ω
		$V_{GS} = 10\text{V}$ $I_D = 6.9\text{A}$			0.63	
$g_{fs}^{(1)}$	Forward Transconductance	$V_{DS} \geq 15\text{V}$ $I_{DS} = 4.4\text{A}$	4.9			$\text{S}(\Omega)$

DYNAMIC CHARACTERISTICS

C_{iss}	Input Capacitance	$V_{GS} = 0$		1400		pF
C_{oss}	Output Capacitance	$V_{DS} = 25\text{V}$		350		
C_{rss}	Reverse Transfer Capacitance	$f = 1.0\text{MHz}$		230		
$Q_g^{(1)(3)}$	Total Gate Charge	$V_{GS} = 10\text{V}$			65	nC
$Q_{gs}^{(1)(3)}$	Gate-Source Charge	$I_D = 6.9\text{A}$			10	
$Q_{gd}^{(1)(3)}$	Gate-Drain Charge	$V_{DS} = 0.5BV_{DSS}$			40.5	
$t_{d(on)}$	Turn-On Delay Time	$V_{DD} = 200\text{V}$			25	ns
t_r	Rise Time	$I_D = 6.9\text{A}$			92	
$t_{d(off)}$	Turn-Off Delay Time	$R_G = 9.1\Omega$			79	
t_f	Fall Time	$V_{GS} = 10\text{V}$			58	

SOURCE-DRAIN DIODE CHARACTERISTICS

I_S	Continuous Source Current				6.9	A
$I_{SM}^{(2)}$	Pulse Source Current				27	
V_{SD}	Diode Forward Voltage	$I_S = 6.9\text{A}$ $T_J = 25^\circ\text{C}$ $V_{GS} = 0$			1.5	V
$t_{rr}^{(1)(3)}$	Reverse Recovery Time	$I_S = 6.9\text{A}$ $T_J = 25^\circ\text{C}$			600	ns
$Q_{rr}^{(1)(3)}$	Reverse Recovery Charge	$V_{DD} \leq 50\text{V}$ $di/dt = 100\text{A}/\mu\text{s}$			5.6	μC

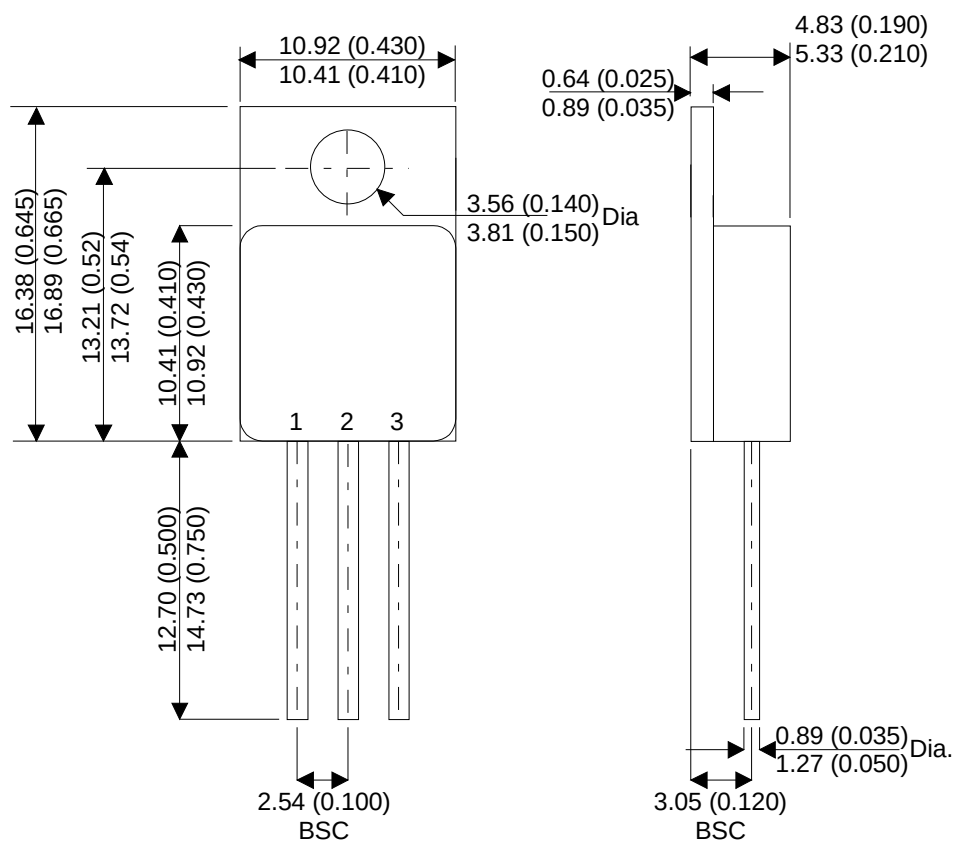
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MECHANICAL DATA

Dimensions in mm (inches)



TO220M (TO-257AB)

Pin 1 - Gate

Pin 2 - Drain

Pin 3 - Source

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