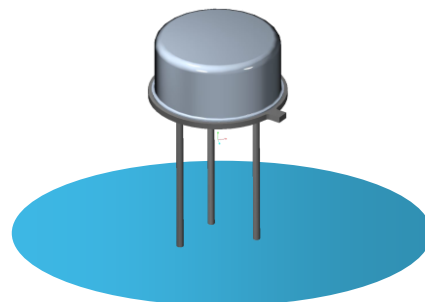


IRFF9130 / 2N6849

- MOSFET Transistor in a Hermetic Metal TO-205AF Package
- Designed For Switching, Power Supply, Motor Control and Amplifier Applications
- High Reliability and Screening Options Available



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

V_{DS}	Drain - Source Voltage	-100V
V_{GS}	Gate - Source Voltage	$\pm 20\text{V}$
I_D	Continuous Drain Current @ $T_C = 25^\circ\text{C}$	-5.8A
I_D	Continuous Drain Current @ $T_C = 100^\circ\text{C}$	-3.7A
$I_{DM}^{(1)}$	Pulsed Drain Current	-25A
P_D	Total Power Dissipation @ $T_C = 25^\circ\text{C}$	20.833W
	Derate Above 25°C	0.167W/ $^\circ\text{C}$
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	6	$^\circ\text{C}/\text{W}$

Notes

- (1) Repetitive Rating: Pulse width limited by maximum junction temperature
- (2) Pulse Width $\leq 380\mu\text{s}$, $\delta \leq 2\%$
- (3) 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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P-CHANNEL POWER MOSFET

IRFF9130 / 2N6849



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

Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Units
$V_{(BR)DSS}$	Drain - Source Breakdown Voltage	$V_{GS} = 0V$ $I_D = -0.25mA$	-100			V
$R_{DS(on)}^{(2)}$	Static Drain - Source On - State Resistance	$V_{GS} = -10V$ $I_D = -3.7A$			0.3	Ω
		$T_A = 125^\circ\text{C}$			0.54	
		$V_{GS} = -10V$ $I_D = -5.8A$			0.32	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$ $I_D = -250\mu A$	-2		-4	V
		$T_A = 125^\circ\text{C}$	-1.0			
		$T_A = -55^\circ\text{C}$			-5	
gfs	Forward Transconductance	$V_{DS} \geq -5V$ $I_{DS} = -3.7A$	2.5		7.5	S(v)
I_{DSS}	Zero Gate Voltage Drain Current	$V_{GS} = 0$ $V_{DS} = 0.8BV_{DSS}$			100	μA
		$T_A = 125^\circ\text{C}$			500	
I_{GSS}	Gate - Source Leakage	$V_{GS} = \pm 20V$			± 100	nA
		$T_A = 125^\circ\text{C}$			± 200	

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

C_{iss}	Input Capacitance	$V_{DS} = -25V$ $V_{GS} = 0V$ $f = 1.0MHz$		845		pF
C_{oss}	Output Capacitance			373		
C_{rss}	Reverse Transfer Capacitance			92		
$t_{d(on)}$	Turn-On Delay Time	$V_{DD} = -50V$ $I_D = -5.8A$ $R_G = 7.5\Omega$			60	ns
t_r	Rise Time				140	
$t_{d(off)}$	Turn-Off Delay Time				140	
t_f	Fall Time				140	

SOURCE-DRAIN DIODE CHARACTERISTICS

$t_{rr}^{(3)}$	Reverse Recovery Time	$I_S = -5.8A$ $T_J = 25^\circ\text{C}$ $V_{DD} \leq -50V$ $di/dt = 100A/\mu s$			250	ns
V_{SD}	Diode Forward Voltage	$I_S = -5.8A$ $T_J = 25^\circ\text{C}$ $V_{GS} = 0$			-4.3	V

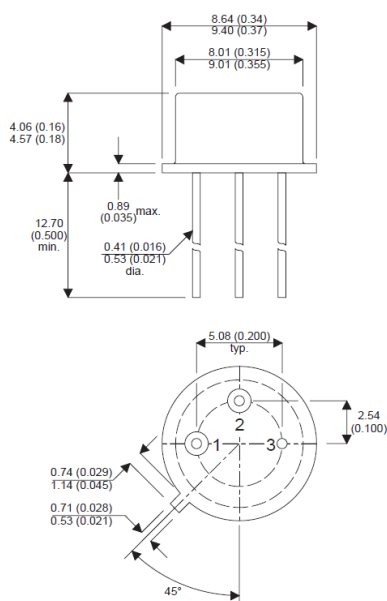
P-CHANNEL POWER MOSFET

IRFF9130 / 2N6849



MECHANICAL DATA

Dimensions in mm (inches)



TO-39 (TO-205AF)

PACKAGE PIN CONNECTIONS

Pin	Connection
1	Source
2	Gate
3	Drain

PART NUMBER VARIANTS⁽⁴⁾⁽⁵⁾

Part Number Reference	Termination Finish	SML ROHS
IRFF9130 / 2N6849	Pre-tinned 63% Tin, 37% Lead	LD ⁽⁶⁾

Notes

- (4) Specify lead finish option by part number at point of order.
- (5) All design variants contain Lead (Pb) within the construction of the device. The Lead content is fully RoHS compliant but using an exemption as currently understood from the EU directive 2011/65/EU (Annex III, exemption 7a).
- (6) LD = e0, as defined in J-STD-609 2nd Level Interconnect Category.