

N-CHANNEL POWER MOSFET



2N6798 / IRFF230

Features:

- Hermetic Low Profile TO-39 (TO-205AF) Metal Package.
- Ideally Suited For Switching, Power Supply, Motor Control and Amplifier Applications.
- Screening Options Available.



Absolute Maximum Ratings ($T_C = 25^\circ\text{C}$ unless otherwise noted)

V_{DS}	Drain - Source Voltage	200V
V_{GS}	Gate - Source Voltage	$\pm 20\text{V}$
I_D	Continuous Drain Current $T_C = 25^\circ\text{C}$	5.5A
I_D	Continuous Drain Current $T_C = 100^\circ\text{C}$	3.5A
$I_{DM}^{(1)}$	Pulsed Drain Current	22A
P_D	Total Power Dissipation at $T_C = 25^\circ\text{C}$ Derate Above 25°C	25W
		0.2W/ $^\circ\text{C}$
T_J	Junction Temperature Range	-55 to $+150^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55 to $+150^\circ\text{C}$

Thermal Properties

SYMBOL	PARAMETER	MAX	UNITS
$R_{\theta JC}$	Thermal Resistance, Junction to Case	5	$^\circ\text{C/W}$

Notes:

(1) Repetitive Rating: Pulse width limited by maximum junction temperature.

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

Electrical Specifications

Electrical Characteristics ($T_C = 25^\circ C$ unless otherwise noted)

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$V_{(BR)DSS}$	Drain - Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 1.0\text{mA}$	200			V
$V_{GS(\text{th})}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$ $I_D = 0.25\text{mA}$	2		4	V
I_{GSS}	Gate - Source Leakage Current	$V_{DS} = 0$ $V_{GS} = \pm 20\text{V}$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{GS} = 0$ $V_{DS} = 160\text{V}$ $T_J = 125^\circ\text{C}$			25	μA
$R_{DS(\text{on})}^{(2)}$	Static Drain - Source On-State Resistance	$V_{GS} = 10\text{V}$ $I_D = 3.5\text{A}$			0.4	Ω
$g_{fs}^{(2)}$	Forward Transconductance	$V_{GS} = 15\text{V}$ $I_D = 3.5\text{A}$	2.5			S

Dynamic Characteristics ($T_C = 25^\circ C$ unless otherwise noted)

C_{iss}	Input Capacitance	$V_{DS} = 25\text{V}$ $V_{GS} = 0\text{V}$ $f = 1.0\text{MHz}$	600		pF
C_{oss}	Output Capacitance		250		pF
C_{rss}	Reverse Transfer Capacitance		80		pF
$t_{d(\text{on})}$	Turn-On Delay Time	$V_{DD} = 77\text{V}$ $I_D = 3.5\text{A}$ $R_G = 7.5\Omega$		30	ns
t_r	Rise Time			50	ns
$t_{d(\text{off})}$	Turn-Off Delay Time			50	ns
t_f	Fall Time			40	ns

Source - Drain Diode Characteristics

$V_{SD}^{(2)}$	Diode Forward Voltage	$I_S = 5.5\text{A}$ $V_{GS} = 0$			1.4	V
I_S	Continuous Current				5.5	A
$I_{SM}^{(1)}$	Pulsed Current				22	A
$t_{rr}^{(3)}$	Reverse Recovery Time	$I_S = 5.5\text{A}$ $V_{GS} = 0$ $di/dt \leq 100\text{A}/\mu\text{s}$ $V_{GS} \leq 50\text{V}$		500	ns	
$Q_{rr}^{(3)}$	Reverse Recovery Charge				6	μC

Notes:

(1) Repetitive Rating: Pulse width limited by maximum junction temperature.

(2) Pulse Width $\leq 380\text{us}$, $\delta \leq 2\%$.

(3) By design, not a production test.

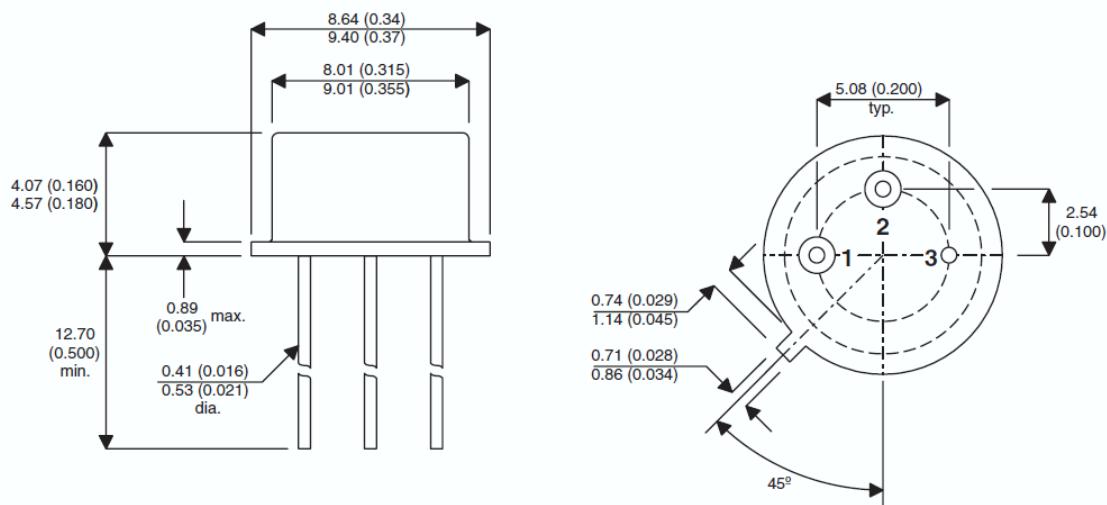
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Packaging

Mechanical Data

Dimensions in mm (Inches)



Package Outline: TO39 (TO-205AF)

PACKAGE PIN CONNECTIONS

Pin	Connection
1	Source
2	Gate
3	Drain

PART NUMBER VARIANTS

Part Number Reference	Termination Finish ⁽ⁱ⁾	SML ROHS
2N6798 / IRFF230	Pre tinned 63% Tin, 37% Lead	LD ⁽ⁱⁱ⁾

Notes:

- i. Other lead finish options available. Specify lead finish requirements at point of order.
- ii. LD = e0 as defined in J-STD-609 2nd Level Interconnect Category.

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