

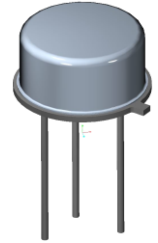
N-CHANNEL POWER MOSFET



2N6796

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	100V
V_{GS}	Gate - Source Voltage	$\pm 20\text{V}$
I_D	Continuous Drain Current $T_C = 25^\circ\text{C}$	7.2A
I_D	Continuous Drain Current $T_C = 100^\circ\text{C}$	4.6A
$I_{DM}^{(1)}$	Pulsed Drain Current	32A
P_D	Total Power Dissipation at $T_C = 25^\circ\text{C}$	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

SYMBOL	PARAMETER	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.

Electrical Specifications

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

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$V_{(BR)DSS}$	Drain - Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 0.25\text{mA}$	100			V
$V_{GS(th)}$	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	$V_{GS} = 0$ $V_{DS} = 80\text{V}$			250	μA
		$T_J = 125^\circ\text{C}$			1.0	mA
$R_{DS(on)}^{(2)}$	Static Drain - Source On-State Resistance	$V_{GS} = 10\text{V}$ $I_D = 4.6\text{A}$			0.18	Ω
		$T_J = 125^\circ\text{C}$			0.35	Ω
		$V_{GS} = 10\text{V}$ $I_D = 7.2\text{A}$			0.207	Ω
$V_{DS(on)}^{(2)}$	Drain - Source On-Voltage	$V_{GS} = 10\text{V}$ $I_D = 7.2\text{A}$			1.5	V
$g_{fs}^{(2)}$	Forward Transconductance	$V_{GS} = 15\text{V}$ $I_D = 4.6\text{A}$	3			S

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

C_{iss}	Input Capacitance	$V_{DS} = 25\text{V}$ $f = 1.0\text{MHz}$	$V_{GS} = 0\text{V}$		683		pF
C_{oss}	Output Capacitance				165		pF
C_{rss}	Reverse Transfer Capacitance				84		pF
$t_{d(on)}$	Turn-On Delay Time	$V_{DD} = 50\text{V}$ $R_G = 7.5\Omega$	$I_D = 7.2\text{A}$		30		ns
t_r	Rise Time				75		ns
$t_{d(off)}$	Turn-Off Delay Time				40		ns
t_f	Fall Time				45		ns

Source - Drain Diode Characteristics

$t_{rr}^{(3)}$	Reverse Recovery Time	$I_S = 7.2\text{A}$ $di/dt \leq 100\text{A}/\mu\text{s}$	$V_{GS} = 0$ $V_{DD} \leq 50\text{V}$			300	ns
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Notes:

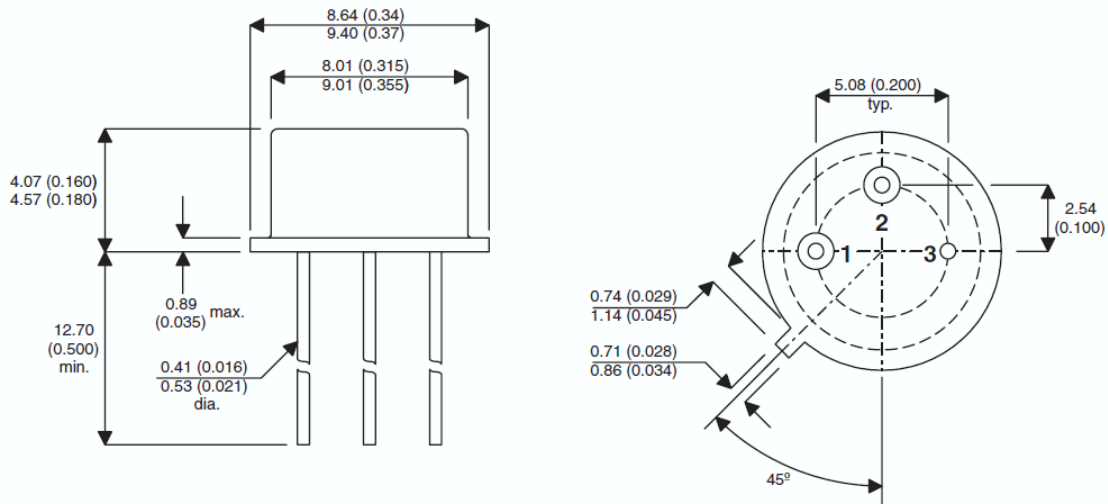
(2) Pulse Width $\leq 380\mu\text{s}$, $\delta \leq 2\%$.

(3) By design, not a production test.

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
2N6796	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.

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.

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