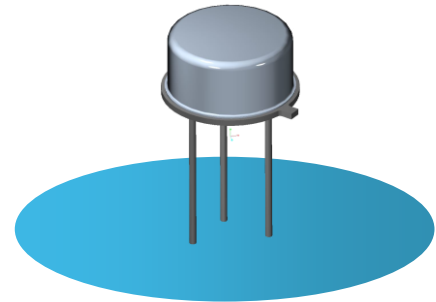


2N6796

- 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°C unless otherwise stated)

V _{DS}	Drain - Source Voltage	100V
V _{GS}	Gate - Source Voltage	±20V
I _D	Continuous Drain Current @ T _C = 25°C	7.2A
I _D	Continuous Drain Current @ T _C = 100°C	4.6A
I _{DM} ⁽¹⁾	Pulsed Drain Current	32A
P _D	Total Power Dissipation @ T _C = 25°C	20.833W
	Derate Above 25°C	0.167W/°C
T _J	Junction Temperature Range	-55 to +150°C
T _{stg}	Storage Temperature Range	-55 to +150°C

THERMAL PROPERTIES

Symbols	Parameters	Max.	Units
R _{θJC}	Thermal Resistance, Junction To Case	6	°C/W

Notes

- (1) Repetitive Rating: Pulse width limited by maximum junction temperature
- (2) Pulse Width ≤ 380μs, δ ≤ 2%
- (3) By Design Only, Not A Production Test.

N-CHANNEL POWER MOSFET

2N6796



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	$V_{GS} = 0$ $I_D = 0.25\text{mA}$	100			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$ $I_D = 0.25\text{mA}$	2.0		4.0	V
I_{GSS}	Gate - Source Leakage	$V_{DS} = 0$ $V_{GS} = \pm 20\text{V}$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{GS} = 0$ $V_{DS} = 0.8BV_{DSS}$ $T_A = 125^\circ\text{C}$			250	μA
					1000	
$R_{DS(on)}^{(2)}$	Static Drain - Source On - State Resistance	$V_{GS} = 10\text{V}$ $I_D = 4.6\text{A}$ $T_A = 125^\circ\text{C}$			0.18	Ω
					0.35	
		$V_{GS} = 10\text{V}$ $I_D = 7.2\text{A}$			0.207	
$V_{DS(on)}$	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			$S(\nu)$

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

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

SOURCE-DRAIN DIODE CHARACTERISTICS

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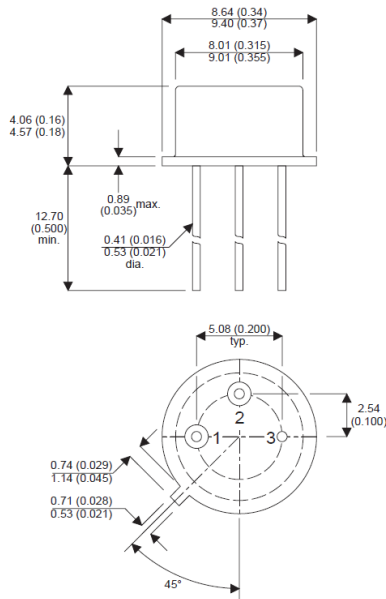
N-CHANNEL POWER MOSFET

2N6796



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
2N6796	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.

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