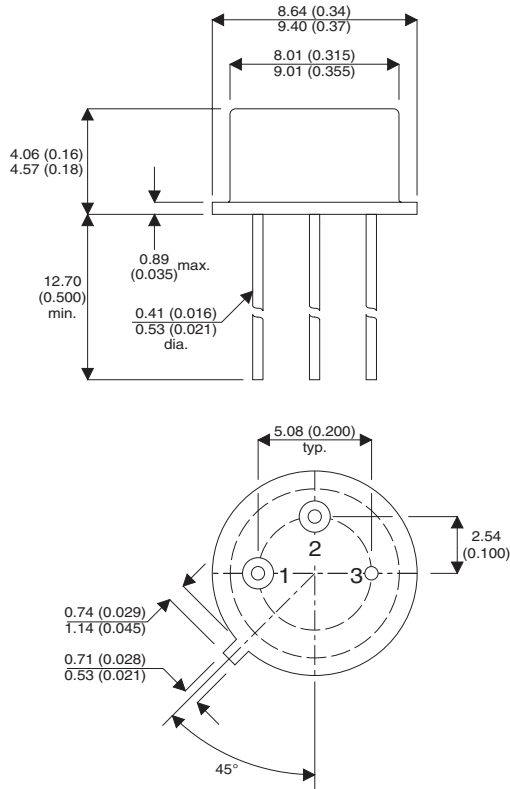


MECHANICAL DATA

Dimensions in mm (inches)



**P-CHANNEL
ENHANCEMENT MODE
HIGH VOLTAGE
POWER MOSFETS**

V_{DSS} -100V
 $I_{D(cont)}$ -4.0A
 $R_{DS(on)}$ 0.60Ω

FEATURES

- HERMETICALLY SEALED TO-39 METAL PACKAGE
- SIMPLE DRIVE REQUIREMENTS
- LIGHTWEIGHT
- SCREENING OPTIONS AVAILABLE

TO-39 (TO-205AF) METAL PACKAGE

PIN1 – Source PIN 2 – Gate PIN 3 – Drain

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


V_{GS}	Gate – Source Voltage	±20V
I_D	Continuous Drain Current ($V_{GS} = 0, T_{case} = 25^{\circ}C$)	-4.0A
I_D	Continuous Drain Current ($V_{GS} = 0, T_{case} = 100^{\circ}C$)	-2.6A
I_{DM}	Pulsed Drain Current ¹	-16A
P_D	Power Dissipation @ $T_{case} = 25^{\circ}C$	20 W
	Linear Derating Factor	0.16 W/°C
T_J, T_{stg}	Operating and Storage Temperature Range	-55 to 150°C
T_L	Package Mounting Surface Temperature (for 5 sec)	300°C
$R_{\theta JC}$	Thermal Resistance Junction to Case	6.25°C/W

Notes

- 1) Repetitive Rating – Pulse width limited by maximum junction temperature.

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
STATIC ELECTRICAL RATINGS					
BV_{DSS}	Drain – Source Breakdown Voltage	$V_{GS} = 0$ $I_D = -1\text{mA}$	- 100		V
$\frac{\Delta BV_{DSS}}{\Delta T_J}$	Temperature Coefficient of Breakdown Voltage	Reference to 25°C $I_D = -1\text{mA}$		- 0.10	$\text{V}/^{\circ}\text{C}$
$R_{DS(on)}$	Static Drain – Source On–State Resistance ¹	$V_{GS} = -10\text{V}$ $I_D = -2.6\text{A}$		0.60	Ω
		$V_{GS} = -10\text{V}$ $I_D = -4.0\text{A}$		0.69	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$ $I_D = -250\mu\text{A}$	- 2	- 4	V
g_{fs}	Forward Transconductance ¹	$V_{DS} > -15\text{V}$ $I_D = -2.6\text{A}$	1.25		S
I_{DSS}	Drain-to-Source Leakage Current	$V_{DS} = -80\text{V}$ $V_{GS} = 0$ $T_J = 125^{\circ}\text{C}$		-25	μA
				-250	
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	
DYNAMIC CHARACTERISTICS					
C_{iss}	Input Capacitance	$V_{GS} = 0$		380	pF
C_{oss}	Output Capacitance	$V_{DS} = -25\text{V}$		170	
C_{rss}	Reverse Transfer Capacitance	$f = 1\text{MHz}$		45	
Q_g	Total Gate Charge	$V_{GS} = -10\text{V}$ $I_D = -4.0\text{A}$ $V_{DS} = -50\text{V}$	4.3	16.3	nC
Q_{gs}	Gate – Source Charge		1.3	4.7	
Q_{gd}	Gate – Drain (“Miller”) Charge		1.0	9.0	
$t_{d(on)}$	Turn–On Delay Time	$V_{DD} = -50\text{V}$		60	ns
t_r	Rise Time	$I_D = -4.0\text{A}$		100	
$t_{d(off)}$	Turn–Off Delay Time	$R_G = 7.5\Omega$		50	
t_f	Fall Time			70	
SOURCE – DRAIN DIODE CHARACTERISTICS					
I_S	Continuous Source Current	MOSFET symbol showing the integral reverse p-n junction diode 		- 4.0	A
I_{SM}	Pulse Source Current			- 16	
V_{SD}	Diode Forward Voltage ¹	$I_S = -4.0\text{A}$ $T_J = 25^{\circ}\text{C}$ $V_{GS} = 0\text{V}$		- 4.8	V
t_{rr}	Reverse Recovery Time ¹	$I_F = -4.0\text{A}$ $T_J = 25^{\circ}\text{C}$		200	ns
Q_{rr}	Reverse Recovery Charge ¹	$d_i / d_t \leq -100\text{A}/\mu\text{s}$ $V_{DD} \leq -50\text{V}$		3.1	μC
t_{on}	Forward Turn–On Time		Negligible		

Notes

 1) Pulse Test: Pulse Width $\leq 300\text{ms}$, $\delta \leq 2\%$

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