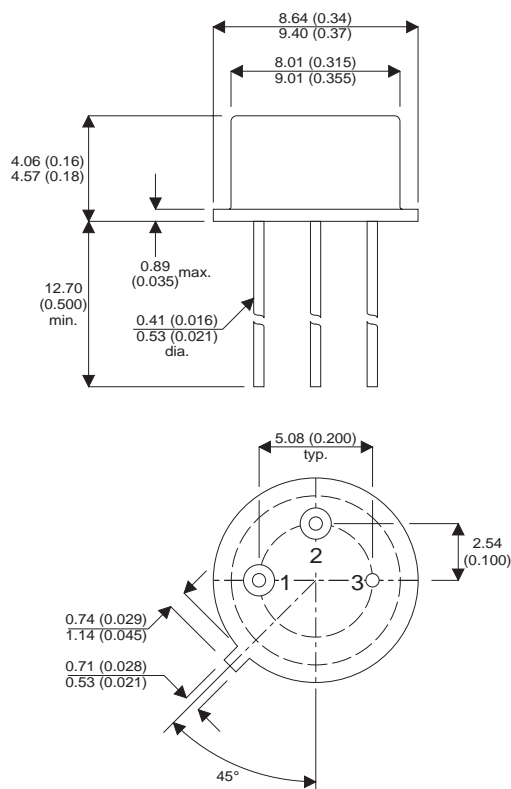


MECHANICAL DATA

Dimensions in mm (inches)



TO-39 (TO-205AF) METAL PACKAGE

PIN1 – Source

PIN 2 – Gate

PIN 3 – Drain

N-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

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

V_{GS}	Gate – Source Voltage	$\pm 20V$
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/ $^{\circ}C$
T_J , T_{stg}	Operating and Storage Temperature Range	-55 to 150 $^{\circ}C$
T_L	Package Mounting Surface Temperature (for 5 sec)	300 $^{\circ}C$
$R_{\theta JC}$	Thermal Resistance Junction to Case	6.25 $^{\circ}C/W$

Notes

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

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
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Document Number 5748

Issue 1

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 = - 1mA	- 100			V
ΔBV _{DSS}	Temperature Coefficient of Breakdown Voltage	Reference to 25°C I _D = - 1mA			- 0.10		V/°C
R _{DS(on)}	Static Drain – Source On–State Resistance ¹	V _{GS} = - 10V	I _D = - 2.6A			0.60	Ω
		V _{GS} = - 10V	I _D = - 4.0A			0.69	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS}	I _D = -250μA	- 2		- 4	V
g _{fs}	Forward Transconductance ¹	V _{DS} > -15V	I _D = -2.6A	1.25			S
I _{DSS}	Drain-to-Source Leakage Current	V _{DS} = - 80V	V _{GS} = 0			-25	μA
			T _J = 125°C			-250	
I _{GSS}	Forward Gate – Source Leakage	V _{GS} = 20V				100	nA
I _{GSS}	Reverse Gate – Source Leakage	V _{GS} = -20V				-100	
DYNAMIC CHARACTERISTICS							
C _{iss}	Input Capacitance	V _{GS} = 0			380		pF
C _{oss}	Output Capacitance	V _{DS} = - 25V			170		
C _{rss}	Reverse Transfer Capacitance	f = 1MHz			45		
Q _g	Total Gate Charge	V _{GS} = -10V	I _D = -4.0A	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} = -50V				60	ns
t _r	Rise Time	I _D = - 4.0A				100	
t _{d(off)}	Turn–Off Delay Time	R _G = 7.5Ω				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 = - 4.0A T _J = 25°C V _{GS} = 0V				- 4.8	V
t _{rr}	Reverse Recovery Time ¹	I _F = -4.0A T _J = 25°C				200	ns
Q _{rr}	Reverse Recovery Charge ¹	d _i / d _t ≤ -100A/μs V _{DD} ≤ -50V				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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