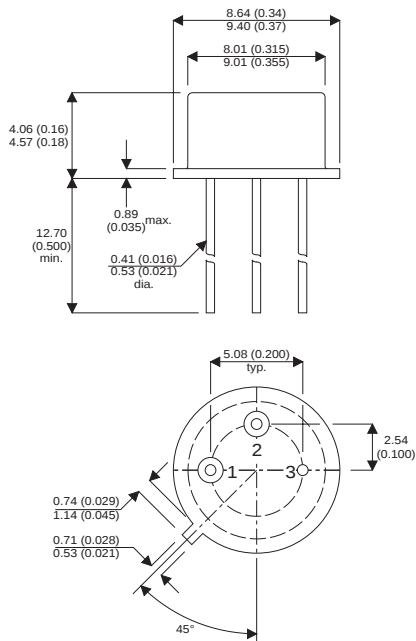


MECHANICAL DATA

Dimensions in mm (inches)



TO-29 PACKAGE (TO-205AF)

Underside View

PIN 1 – Source PIN 2 – Gate PIN 3 – Drain

TMOS FET ENHANCEMENT N - CHANNEL

FEATURES

- $V_{(BR)DSS} = 100V$
- $I_D = 8A$
- $R_{DS(ON)} = 0.18\Omega$

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

V_{DS}	Drain–Source Voltage	100V
V_{DGR}	Drain–Source Voltage ($R_{GS} = 1.0 \text{ m}\Omega$)	100V
V_{GS}	Gate–Source Voltage	$\pm 20V$
I_D	Drain Current Continuous $T_{Case} = 25^\circ C$	8.0A
I_{DM}	Drain Current Pulsed	32A
P_D	Total Device Dissipation @ $T_{Case} = 25^\circ C$	25W
	Derate above $25^\circ C$	$0.2W/^\circ C$
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to $+150^\circ C$
THERMAL CHARACTERISTICS		
$R_{\theta JC}$	Thermal Resistance Junction to Case	$5.0^\circ C/W$
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	$175^\circ C/W$
T_L	Maximum Lead Temperature 1.6mm from Case for 10 secs.	$300^\circ C$

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V _{(BR)DSS}	Drain–Source Breakdown Voltage	V _{GS} = 0 I _D = 0.25mA	100		V
V _{GS(th)}	Gate Threshhold Voltage ¹	V _{DS} =V _{GS} I _D = 0.5mA	2.0	4.0	
I _{GSS}	Gate–Body Leakage	V _{DS} = 0 V _{GS} = ±20V		±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = Rated V _{DSS}		250	μA
		V _{GS} = 0V T _j = 125°C		1000	
r _{DS(on)}	Drain–Source On–Resistance ¹	V _{GS} = 10V I _D = 5.0A		0.18	Ω
		T _A = 125°C		0.35	
V _{DS(on)}	Drain–Source On–Voltage ¹	V _{GS} = 10V I _D = 8.0A		1.56	V
g _{fS}	Forward Transconductance ¹	V _{GS} = 15V I _D = 5.0A	3.0	9.0	s(ṽ)
C _{iss}	Input Capacitance	V _{DS} = 25V V _{GS} = 0 f = 1.0MHz	350	900	pF
C _{oss}	Output capacitance		150	500	
C _{rss}	Reverse Transfer Capacitance		50	150	
t _{d(on)}	Turn–On Delay Time ¹	V _{DD} = 30V R _{GEN} = 50Ω I _D = 5.0A R _G = 7.5 ohms		30	ns
t _r	RiseTime ¹			75	
t _{d(off)}	Turn off Delay Time ¹			40	
t _f	FallTime ¹			45	
SOURCE DRAIN DIODE RATING CHARACTERISTICS					
V _{SD}	Diode Forward Voltage ¹	I _S = Rated I _{D(on)} V _{GS} = 0		5.5	V
t _{on}	Forward Turn OnTime ¹			Negligible	
t _{rr}	Reverse Recovery Time ¹			300	ns

- 1) Pulse test : Pulse Width < 300 μs ,Duty Cycle < 2%
- 2) Pulse width limited by maximum junction temperature

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