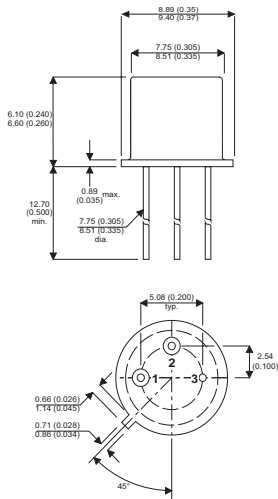


MECHANICAL DATA

Dimensions in mm (inches)



**TMOS FET TRANSISTOR
N – CHANNEL**

FEATURES

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

TO-39 METAL PACKAGE

Underside View

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

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

V_{DSS}	Drain–Source Voltage	100V
V_{DGR}	Drain–Gate Voltage ($R_{GS} = 1.0m\Omega$)	100V
V_{GS}	Gate–Source Voltage	$\pm 20V$
I_D	Drain Current Continuous	8.0A
I_{DM}	Drain Current Pulsed	32A
P_D	Total Device Dissipation @ $T_C = 25^\circ C$	25W
	Derate above $25^\circ C$	0.2W/ $^\circ CW$
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	$5.0^\circ CW$
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	$175^\circ CW$
T_L	Maximum Lead Temperature 1.5mm from Case for 10 s	$300^\circ C$

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit	
OFF CHARACTERISTICS						
$V_{(BR)DSS}$	Drain–Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 0.25\text{mA}$	100		V	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = \text{Rated } V_{DSS}$ $V_{GS} = 0$		250	μA	
		$V_{DS} = 80\text{V}$ $V_{GS} = 0$ $T_J = 125^\circ\text{C}$		1000		
I_{GSSF}	Gate–Body Leakage Current, Forward	$V_{DS} = 0$ $V_{GS} = 20\text{V}$		100	nA	
I_{GSSR}	Gate–Body Leakage Current, Reverse	$V_{DS} = 0$ $V_{GS} = -20\text{V}$		-100		
ON CHARACTERISTICS						
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$ $I_D = 0.5\text{mA}$	2.0		4.0 V	
$r_{DS(on)}$	Static Drain–Source On–Resistance	$V_{GS} = 10\text{V}$ $I_D = 5.0\text{A}$		0.18	Ω	
		$T_A = 125^\circ\text{C}$		0.35		
$V_{DS(on)}$	Drain–Source On–Voltage	$V_{GS} = 10\text{V}$ $I_D = 8.0\text{A}$		1.56	V	
g_{fs}	Forward Transconductance	$V_{GS} = 15\text{V}$ $I_D = 5.0\text{A}$	3.0	9.0	mhos	
DYNAMIC CHARACTERISTICS						
C_{iss}	Input Capacitance	$V_{DS} = 25\text{V}$ $V_{GS} = 0$ $f = 1.0\text{MHz}$	350		900	μF
C_{oss}	Output capacitance		150		500	
C_{rss}	Reverse Transfer Capacitance		50		150	
SWITCHING CHARACTERISTICS						
t_{on}	Turn–On Time	$V_{DD} = 30\text{V}$ $I_D = 5.0\text{A}$ $R_{gen} = 50\text{ ohms}$			30	ns
t_{off}	Turn–Off Time				75	
t_r	RiseTime				40	
t_f	FallTime				45	
SOURCE DRAIN DIODE CHARACTERISTICS*						
V_{SD}	Diode Forward Voltage	$I_S = \text{Rated } I_{D(on)}$ $V_{GS} = 0$	0.75		1.5	V
t_{on}	Forward turn-On Time				Negligible	ns
t_{rr}	Reverse Recovery Time				300	

1) Pulse test : Pulse Width < 300 μs ,Duty Cycle < 2%