

TD2001Y

Dual P-Channel Enhancement-Mode MOSFETs

SO-8 PACKAGE

T.39-27

PRODUCT SUMMARY

$V_{(BR)DSS}$ (V)	$r_{DS(ON)}$ (Ω)	I_D (A)
-30	2	-0.5

FEATURES

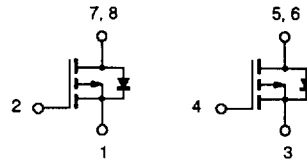
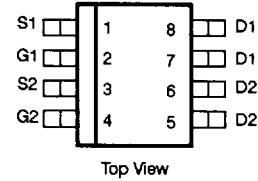
- Electrically Isolated MOSFETs
- Surface Mount
- Low Thermal Resistance

APPLICATIONS

- MOSFET Drivers
- Motor Drivers

END PRODUCTS

- Disk/Tape Drives
- Printers/Plotters
- Instrumentation



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
			SINGLE MOSFET	
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current	$T_A = 25^{\circ}\text{C}$	I_D	-0.65	A
	$T_A = 100^{\circ}\text{C}$		-0.41	
Pulsed Drain Current ¹		I_{DM}	2	
Maximum Power Dissipation	$T_A = 25^{\circ}\text{C}$	P_D	1.5	W
	$T_A = 100^{\circ}\text{C}$		0.8	
Operating Junction & Storage Temperature Range		T_J, T_{stg}	-55 to 150	$^{\circ}\text{C}$
Lead Temperature (1/16" from case for 10 sec.)		T_L	300	

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	LIMITS	UNITS
Junction-to-Ambient	R_{thJA}	83.3	K/W

¹Pulse width limited by maximum junction temperature.

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SPECIFICATIONS ^a		LIMITS				
PARAMETER	SYMBOL	TEST CONDITIONS	TYP ^b	MIN	MAX	UNIT
STATIC						
Drain-Source Breakdown Voltage	V _{BR(DSS)}	V _{GS} = 0 V, I _D = -10 μA	-55	-30		V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -1 mA	-3.6	-0.8	-4.5	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ± 20 V			± 100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -24 V, V _{GS} = 0 V T _J = 125°C			-10 -500	μA
On-State Drain Current ^c	I _{D(ON)}	V _{DS} = -10 V, V _{GS} = -10 V	-1.5	-1		A
Drain-Source On-Resistance ^c	r _{DS(ON)}	V _{GS} = -10 V, I _D = -200 mA T _J = 125°C	1.7		2 4	Ω
Forward Transconductance ^c	g _{FS}	V _{DS} = -10 V, I _D = -0.5 A	290	200		mS
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0 V, V _{DS} = -15 V, f = 1 MHz	130		150	pF
Output Capacitance	C _{oss}		75		100	
Reverse Transfer Capacitance	C _{rss}		20		60	
SWITCHING						
Turn-On Time	t _{ON}	V _{DD} = -25 V, R _L = 23 Ω, I _D = -1 A V _{GEN} = -10 V, R _G = 25 Ω (Switching time is essentially independent of operating temperature)	16		30	ns
Turn-Off Time	t _{OFF}		13		30	

NOTES:

- $T_A = 25^\circ\text{C}$ unless otherwise noted.
- For design aid only, not subject to production testing.
- Pulse test: Pulse Width $\leq 300\text{ }\mu\text{sec}$, Duty Cycle $\leq 2\%$.