

MFQ107

CASE 646-05, STYLE 1

QUAD
DUAL IN LINE
TMOS

N-CHANNEL — ENHANCEMENT

MAXIMUM RATINGS

Rating	Symbol	Value		Unit
Drain-Source Voltage	V _{DS}	200		Vdc
Drain-Gate Voltage	V _{DG}	200		Vdc
Gate-Source Voltage	V _{GS}	± 20		Vdc
Drain Current	I _D	400		mAdc
		Each Transistor	Four Transistors Equal Power	
Total Device Dissipation @ T _A = 25°C(1) Derate above 25°C	P _D	0.5 4.0	1.2 9.6	Watts mW/°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	- 55 to +150		°C

Refer to MFE9200 for graphs

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Drain-Source Breakdown Voltage (V _{GS} = 0, I _D = 10 µA)	V(BR)DSS	200	—	—	Vdc
Zero Gate Voltage Drain Current (V _{DS} = 130 V, V _{GS} = 0)	I _{DSS}	—	0.1	10	µAdc
Gate-Body Leakage Current (V _{GS} = 15 Vdc, V _{DS} = 0)	I _{GSS}	—	0.01	50	nAdc
ON CHARACTERISTICS*					
Gate Threshold Voltage (I _D = 1.0 mA, V _{DS} = V _{GS})	V _{GS(th)}	1.0	—	4.0	Vdc
Static Drain-Source On-Resistance (V _{GS} = 10 Vdc) (I _D = 100 mA) (I _D = 250 mA) (V _{GS} = 2.6 V, I _D = 20 mA)	r _{DS(on)}	— — —	4.5 4.8	15 15 30	Ohms
Drain-Source On-Voltage (V _{GS} = 10 V) (I _D = 100 mA) (I _D = 250 mA) (I _D = 500 mA)	V _{DS(on)}	— — —	0.45 1.20 3.0	1.5 3.75 —	Vdc
Forward Transconductance (V _{DS} = 25 V, I _D = 250 mA)	g _{fs}	200	400	—	mmhos
DYNAMIC CHARACTERISTICS					
Input Capacitance (V _{DS} = 25 V, V _{GS} = 0, f = 1.0 MHz)	C _{iss}	—	72	90	pF
Output Capacitance (V _{DS} = 25 V, V _{GS} = 0, f = 1.0 MHz)	C _{oss}	—	15	20	pF
Reverse Transfer Capacitance (V _{DS} = 25 V, V _{GS} = 0, f = 1.0 MHz)	C _{rss}	—	2.8	3.5	pF
SWITCHING CHARACTERISTICS*					
Turn-On Time See Figure 1	t _{on}	—	6.0	15	ns
Turn-Off Time See Figure 1	t _{off}	—	12	15	ns

* Pulse Test: Pulse Width ≤ 300 µs, Duty Cycle ≤ 2%.

RESISTIVE SWITCHING

FIGURE 1 — SWITCHING TEST CIRCUIT

FIGURE 2 — SWITCHING WAVEFORMS

