

N-CHANNEL ENHANCEMENT MODE D-MOS FETs 8-CHANNEL ARRAYS

ORDERING INFORMATION

18 Pin Plastic DIP	ANO110NA	ANO120NA	ANO130NA	ANO140NA
Description (each channel)	100V,100 Ω	200V,300 Ω	300V,300 Ω	400V,350 Ω

FEATURES

- Ultra-Low Channel OFF Leakage, <800pA
- High Channel-to-Channel Isolation
- 100V to 400V Capability
- Industry Standard Pin-Out

APPLICATIONS

- Electrostatic Array Drivers
- Electroluminescent Panel Drivers
- Converters
- Multi-Channel Array Drivers

ABSOLUTE MAXIMUM RATINGS ($T_A = +25^\circ\text{C}$ per channel unless otherwise specified)

Drain-Source Voltage

ANO110N	+ 100V
ANO120N	+ 200V
ANO130N	+ 300V
ANO140N	+ 400V

Drain-Gate Voltage ($V_{GS} = 0$)

ANO110N	+ 100V
ANO120N	+ 200V
ANO130N	+ 300V
ANO140N	+ 400V

Channel-to-Channel Isolation Voltage

Drain-to-Drain Voltage ($V_{GS} = 0$)	
ANO110N	+ 100V
ANO120N	+ 200V
ANO130N	+ 300V
ANO140N	+ 400V

Gate-Source Voltage

Operating and Storage Temperature	$\pm 30V$
Range	-55 to + 85 $^\circ\text{C}$

Lead Temperature (1/16" from mounting

Surface for 10 sec.)	+ 300 $^\circ\text{C}$
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Continuous Drain Current, Total Package

	$T_A = +25^\circ\text{C}$	$T_C = +25^\circ\text{C}$
ANO110N	80mA	140mA
ANO120N, ANO130N	50mA	80mA
ANO140N	40mA	75mA

Continuous Drain Current, Single Channel

	$T_A = +25^\circ\text{C}$	$T_C = +25^\circ\text{C}$
ANO110N	50mA	100mA
ANO120N, ANO130N	30mA	60mA
ANO140N	25mA	50mA

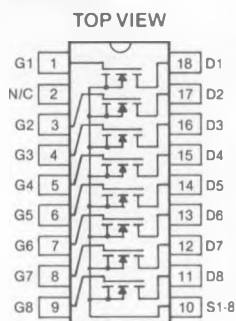
Continuous Device Dissipation

	$T_A = +25^\circ\text{C}$	$T_C = +25^\circ\text{C}$
Total Package	.64W	2.0W
Single Channel	.30W	1.0W

Linear Derating Factor

	$T_A = +25^\circ\text{C}$	$T_C = +25^\circ\text{C}$
Total Package	10.67mW/ $^\circ\text{C}$	33.2mW/ $^\circ\text{C}$
Single Channel	5mW/ $^\circ\text{C}$	16.6mW/ $^\circ\text{C}$

PIN CONFIGURATION & SCHEMATIC DIAGRAM



PACKAGE DIMENSIONS

18-Pin Plastic DIP

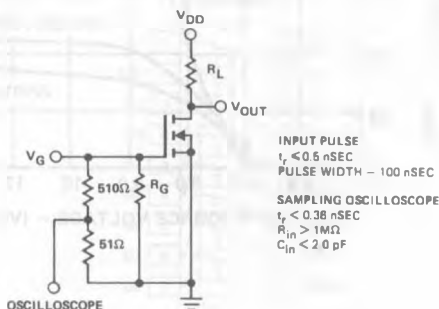
(See Package 11)

ELECTRICAL CHARACTERISTICS ($T_A = +25^\circ\text{C}$ per channel unless otherwise noted)

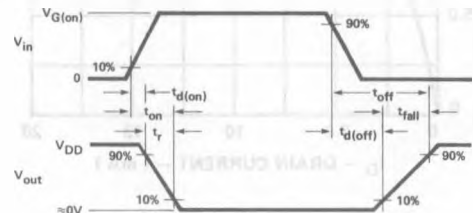
#	CHARACTERISTIC			MIN	TYP	MAX	UNIT	TEST CONDITIONS		
1	STATIC	BV _{DSS} Drain-Source Breakdown Voltage	AN0110	100	160		V	I _D = 100μA, V _{GS} = 0		
2			AN0120	200	300					
3			AN0130	300	400					
4			AN0140	400	450					
5		I _{DSS} Drain-Source OFF Leakage Current	AN0110			5.0	nA	V _{DS} = 80V	V _{GS} = 0	(NOTE 1)
6			AN0120			5.0		V _{DS} = 160V		
7			AN0120			5.0		V _{DS} = 240V		
8			AN0140			5.0		V _{DS} = 330V		
9		I _{GBS} Gate-Body Leakage Current				10	nA	V _{GS} = 20V, V _{DS} = 0		
10		V _{GS(th)} Gate-Source Threshold Voltage		2.0		5.0	V	V _{DS} = V _{GS} , I _D = 1.0mA		
11		r _{DS(on)} Drain-Source ON Resistance	AN0110		60	100	ohms	I _D = 10mA, V _{GS} = 10V		
12			AN0120		210	300				
13			AN0130		260	300				
14			AN0140		325	350				
15		I _{D(on)} Drain-Source ON Current	AN0110	50			mA	V _{DS} = 25V, V _{GS} = 10V		
16			AN0120	25						
17	AN0130		25							
18	AN0140		25							
19	g _{fs} Common-Source Forward Transcond	AN0110	8.0			mmhos	V _{DS} = 25V, I _D = 10mA, f = 1KHz			
20		AN0120	4.0							
21		AN0130	4.0							
22		AN0140	4.0							
23	DYNAMIC	C _{iss} Common-Source Input Capacitance		8.0	10	pF	V _{DS} = 25V, V _{GS} = 0, f = 1MHz			
24		C _{oss} Common-Source Output Capacitance		1.5	2.0					
25		C _{rss} Common-Source Reverse Transfer Capacitance		0.8	1.0					
26		t _{d(on)} Turn-ON Delay Time		3		nS	V _{DD} = 25V, V _{G(on)} = 10V R _L = 820Ω R _G = 51Ω			
27		t _r Rise Time		3						
28	t _{d(off)} Turn-OFF Delay Time		5							
29	t _f Fall Time		5							

Note 1: Limit is OFF leakage of all 8 segments in parallel.

SWITCHING TIMES TEST CIRCUIT

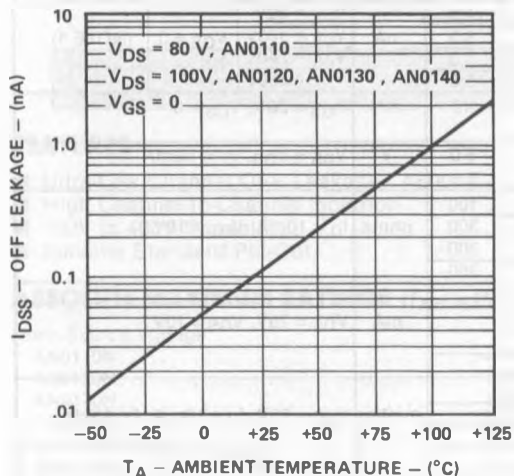


TEST WAVEFORMS

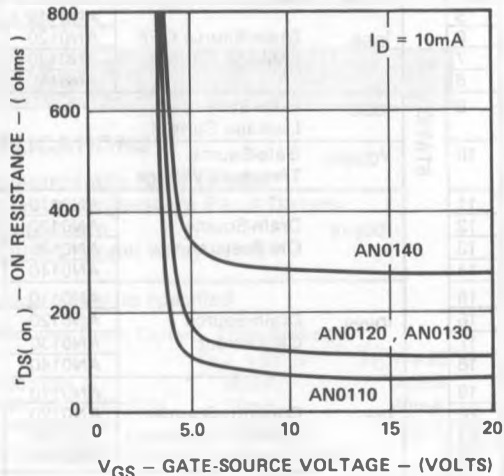


TYPICAL PERFORMANCE CHARACTERISTICS ($T_A = +25^\circ\text{C}$, per channel, unless otherwise specified)

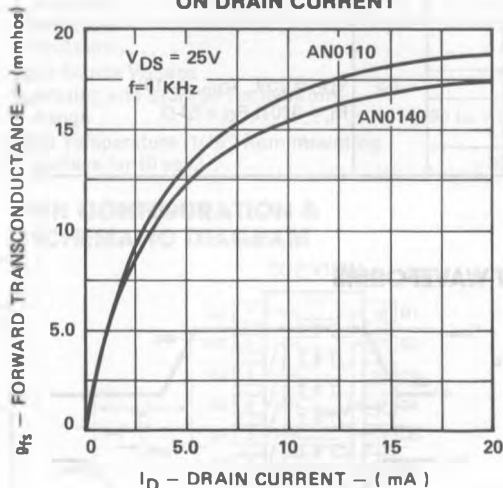
DRAIN-SOURCE OFF LEAKAGE
—VS—
AMBIENT TEMPERATURE



DRAIN-SOURCE ON RESISTANCE
—VS—
GATE-SOURCE VOLTAGE



FORWARD TRANSCONDUCTANCE
—VS—
ON DRAIN CURRENT



ON DRAIN CURRENT
—VS—
GATE-SOURCE VOLTAGE

