VN0606M, VN0808M
N-Channel Enhancement-Mode MOS Transistors

Siliconix incorporated

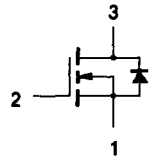
PRODUCT SUMMARY

PART NUMBER	$V_{(BR)DSS}$ (V)	$r_{DS(ON)}$ (Ω)	I_D (A)
VN0606M	60	3	0.39
VN0808M	80	4	0.33

Performance Curves: VNDQ06 . . . . . VN0606M
VNDQ09 . . . . . VN0808M

TO-237 BOTTOM VIEW

1 SOURCE
2 GATE
3 & TAB-DRAIN



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS VN0606M	LIMITS VN0808M	UNITS
Drain-Source Voltage		V_{DS}	60	80	V
Gate-Source Voltage		V_{GS}	±30	±30	
Continuous Drain Current	T_A = 25°C	I_D	0.39	0.33	A
	T_A = 100°C		0.25	0.21	
Pulsed Drain Current[1]		I_{DM}	2.0	1.9	
Power Dissipation	T_A = 25°C	P_D	1.0	1.0	W
	T_A = 100°C		0.4	0.4	
Operating Junction & Storage Temperature Range		T_J, T_{stg}	−55 to 150		°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}	125	K/W

[1]Pulse width limited by maximum junction temperature

SPECIFICATIONS[a]			LIMITS					
				VN0606M		VN0808M		
PARAMETER	SYMBOL	TEST CONDITIONS	TYP[b]	MIN	MAX	MIN	MAX	UNIT
STATIC								
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D = 10 µA, V_{GS} = 0 V	120	60		80		V
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 1 mA	1.6	0.8	2	0.8	2	
Gate-Body Leakage	I_{GSS}	V_{GS} = ±15 V, V_{DS} = 0 V			±100		±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 80 V, V_{GS} = 0 V			10		10	µA
		T_J = 125°C			500		500	
On-State Drain Current[d]	$I_{D(ON)}$	V_{DS} = 10 V, V_{GS} = 10 V	1.8	1.5		1.5		A
Drain-Source On-Resistance[c]	$r_{DS(ON)}$	V_{GS} = 5 V, I_D = 0.3 A	4.2					Ω
		V_{GS} = 10 V, I_D = 0.5 A			3		4	
		T_J = 125°C			6		8	
Forward Transconductance[c]	g_{FS}	V_{DS} = 10 V, I_D = 0.5 A	350	170		170		mS
Common Source Output Conductance[c]	g_{OS}	V_{DS} = 10 V, I_D = 0.1 A	225					µS
DYNAMIC								
Input Capacitance	C_{iss}	V_{DS} = 25 V, V_{GS} = 0 V f = 1 MHz	35		50		50	pF
Output Capacitance	C_{oss}		15		40		40	
Reverse Transfer Capacitance	C_{rss}		2		10		10	
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	6		10		10	ns
Turn-Off Time	t_{OFF}	(Switching time is essentially independent of operating temperature)	8		10		10	

NOTES:
a. T_A = 25°C unless otherwise noted.
b. For design aid only, not subject to production testing.
c. Pulse test; PW = ≤ 300 µS, duty cycle ≤ 2%.
d. Pulse width limited by maximum junction temperature.

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