ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Parameter		Part Number	Min	Max	Unit	Test Conditions
Static						
BV_{DSS}	Drain-Source Breakdown Voltage	VN0800A,D VN0801A,D	80		V	V_{GS} = 0, I_D = 1 mA
		VN1000A,D VN1001A,D	100			
		VN1200A,D VN1201A,D	120			
$V_{GS(th)}$	Gate Threshold Voltage	All	2.0	4.5	V	V_{GS} = V_{DS}, I_D = 1 mA
I_{GSS}	Gate-Body Leakage	All		100	nA	V_{GS} = 30V, V_{DS} = 0
I_{DSS}	Zero Gate Voltage Drain Current	All		1.0	mA	V_{DS} = Rated V_{DS}, V_{GS} = 0
				4.0		V_{DS} = Rated V_{DS}, V_{GS} = 0, T_C = 150°C
$V_{DS(on)}$	Drain-Source ON-State Voltage[1]	VN0800A,D VN1000A,D VN1200A,D		2.16	V	V_{GS} = 10V, I_D = 12A
		VN0801A,D VN1001A,D VN1201A,D		3.0		
$r_{DS(on)}$	Drain-Source On Resistance[1]	VN0800A,D VN1000A,D VN1200A,D		0.18	Ω	V_{GS} = 10V, I_D = 12A
		VN0801A,D VN1001A,D VN1201A,D		0.25		
$I_{D(on)}$	On-State Drain Current[1]	All	14		A	V_{DS} = 25V, V_{GS} = 10V
Dynamic						
g_{fs}	Forward Transconductance[1]	All	3.0		S	V_{DS} = 25V, I_D = 6A
C_{iss}	Input Capacitance	All		1200	pF	V_{GS} = 0, V_{DS} = 25V, f = 1 MHz
C_{rss}	Reverse Transfer Capacitance	All		200		
C_{oss}	Output Capacitance	All		600		
$t_{d(on)}$	Turn-On Delay Time	All		30	ns	V_{DD} = 60V, I_D ≈ 12A, R_L = 5Ω, R_g = 10Ω (Figure 1)
t_r	Rise Time	All		150		
$t_{d(off)}$	Turn-Off Delay Time	All		100		
t_f	Fall Time	All		100		

Drain-Source Diode Characteristics

		Typ	Unit	
V_{SD}	Forward On Voltage[1]	−1.5	V	I_S = −30A, V_{GS} = 0
t_{rr}	Reverse Recovery Time	300	ns	I_F = 30A, $-V_{GS}$ = 0, di/dt = 100A/μs (Figure 2)

Note 1: Pulse test — 80 μs to 300 μs, 1% duty cycle

Refer to VNDA12 Design Curves (See Section 4)

TEST CIRCUITS

FIGURE 1 Switching Test Circuit

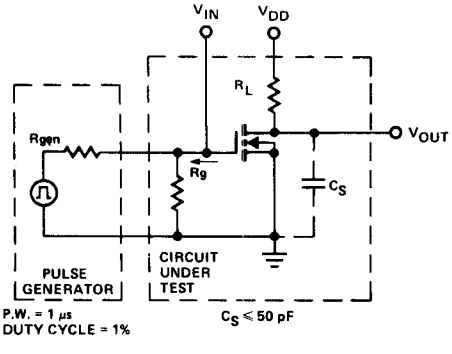

FIGURE 2 JEDEC Reverse Recovery Circuit