

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Part Number	Min	Max	Unit	Test Conditions
Static					
BV_{DSS} Drain-Source Breakdown Voltage	VN0800A.D VN0801A.D VN1000A.D VN1001A.D VN1200A.D VN1201A.D	80 100 120		V	$V_{GS} = 0, I_D = 1\text{ mA}$
$V_{GS(th)}$ Gate Threshold Voltage	All	2.0	4.5	V	$V_{GS} = V_{DS}, I_D = 1\text{ mA}$
I_{GSS} Gate-Body Leakage	All		100	nA	$V_{GS} = 30\text{ V}, V_{DS} = 0$
I_{DSS} Zero Gate Voltage Drain Current	All		1.0 4.0	mA	$V_{DS} = \text{Rated } V_{DS}, V_{GS} = 0$ $V_{DS} = \text{Rated } V_{DS}, V_{GS} = 0, T_C = 150^\circ\text{C}$
$V_{DS(on)}$ Drain-Source ON-State Voltage ¹	VN0800A.D VN1000A.D VN1200A.D VN0801A.D VN1001A.D VN1201A.D		2.16 3.0	V	$V_{GS} = 10\text{ V}, I_D = 12\text{ A}$
$r_{DS(on)}$ Drain-Source On Resistance ¹	VN0800A.D VN1000A.D VN1200A.D VN0801A.D VN1001A.D VN1201A.D		0.18 0.25	Ω	$V_{GS} = 10\text{ V}, I_D = 12\text{ A}$
$I_{D(on)}$ On-State Drain Current ¹	All	14		A	$V_{DS} = 25\text{ V}, V_{GS} = 10\text{ V}$

Dynamic					
g_{fs} Forward Transconductance ¹	All	3.0		S	$V_{DS} = 25\text{ V}, I_D = 6\text{ A}$
C_{iss} Input Capacitance	All		1200	pF	$V_{GS} = 0, V_{DS} = 25\text{ V}, f = 1\text{ MHz}$
C_{rss} Reverse Transfer Capacitance	All		200		
C_{oss} Output Capacitance	All		600		
$t_{d(on)}$ Turn-On Delay Time	All		30	ns	$V_{DD} = 60\text{ V}, I_D \approx 12\text{ A}, R_L = 5\Omega, R_g = 10\Omega$ (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	$I_S = -30\text{ A}, V_{GS} = 0$
t_{rr} Reverse Recovery Time	300	ns	$I_F = 30\text{ A}, V_{GS} = 0, di/dt = 100\text{ A}/\mu\text{s}$ (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

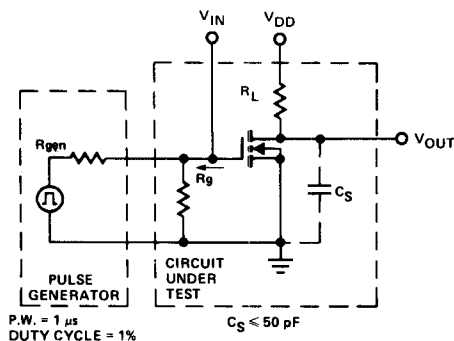
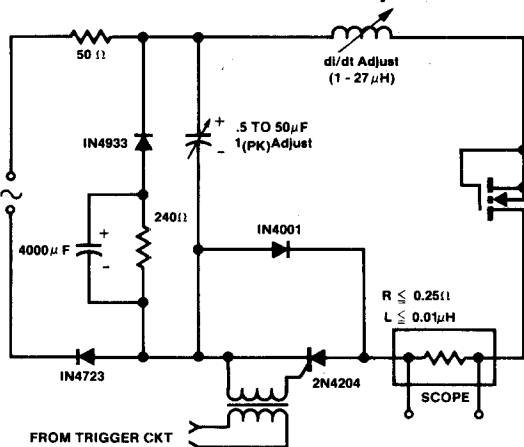


FIGURE 2 JEDEC Reverse Recovery Circuit



VN0800A ■ VN0801A ■ VN100A ■ VN1001A ■ VN1200A
VN0800D ■ VN0801D ■ VN100D ■ VN1001D ■ VN1200D

■ VN1201A
■ VN1201D