

VN46AFD 供应商

捷多邦, 专业PCB打样工厂, 24小时加

急出货

Siliconix
incorporated

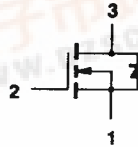
N-Channel Enhancement-Mode MOS Transistor

T-39-07

PRODUCT SUMMARY

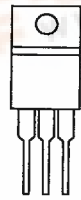
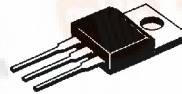
$V_{(BR)DSS}$ (V)	$r_{DS(ON)}$ (Ω)	I_D (A)
40	3	1.46

Performance Curves: VNDQ06



TO-220SD

FRONT VIEW



- 1 SOURCE
2 GATE
3 & TAB - DRAIN

1 2 3

ABSOLUTE MAXIMUM RATINGS ($T_C = 25^\circ\text{C}$ Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	40	V
Gate-Source Voltage		V_{GS}	± 30	
Continuous Drain Current	$T_C = 25^\circ\text{C}$	I_D	1.46	A
	$T_C = 100^\circ\text{C}$		0.92	
Pulsed Drain Current ¹		I_{DM}	3	
Power Dissipation	$T_C = 25^\circ\text{C}$	P_D	15	W
	$T_C = 100^\circ\text{C}$		6	
Operating Junction Temperature Range		T_J	-55 to 150	°C
Storage Temperature Range		T_{stg}	-55 to 150	
Lead Temperature ($1/16$ " from case for 10 sec.)		T_L	300	

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	LIMITS	UNITS
Junction-to-Case	R_{thJC}	8.3	K/W

¹Pulse width limited by maximum junction temperature



VN46AFD

SPECIFICATIONS ^a			LIMITS			
PARAMETER	SYMBOL	TEST CONDITIONS	TYP ^b	MIN	MAX	UNIT
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 10 \mu A, V_{GS} = 0 V$	70	40		V
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 1 mA$	1.5	0.8	2.5	
Gate-Body Leakage	I_{GSS}	$V_{GS} = \pm 15 V, V_{DS} = 0 V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 40 V, V_{GS} = 0 V$			10	μA
		$V_{DS} = 32 V, V_{GS} = 0 V, T_C = 125^\circ C$			500	
On-State Drain Current ^c	$I_{D(ON)}$	$V_{DS} = 10 V, V_{GS} = 10 V$	1.8	1		A
Drain-Source On-Resistance ^c	$r_{DS(ON)}$	$V_{GS} = 5 V, I_D = 0.3 A$	1.8		5	Ω
		$V_{GS} = 10 V, I_D = 1 A$	1.3		3	
		$T_C = 125^\circ C$	2.6		6	
Forward Transconductance ^c	g_{FS}	$V_{DS} = 10 V, I_D = 0.5 A$	350	170		mS
Common Source Output Conductance ^c	g_{OS}	$V_{DS} = 10 V, I_D = 0.1 A$	1100			μS
DYNAMIC						
Input Capacitance	C_{iss}	$V_{DS} = 25 V, V_{GS} = 0 V, f = 1 MHz$	35		50	pF
Output Capacitance	C_{oss}		25		65	
Reverse Transfer Capacitance	C_{rss}		5		10	
SWITCHING						
Turn-On Time	t_{ON}	$V_{DD} = 25 V, R_L = 32 \Omega, I_D = 1 A$ $V_{GEN} = 10 V, R_G = 25 \Omega$	8		15	nS
Turn-Off Time	t_{OFF}	(Switching time is essentially independent of operating temperature)	9.5		15	

NOTES:

- a. $T_C = 25^\circ C$ unless otherwise noted.
 b. For design aid only, not subject to production testing.
 c. Pulse test; $PW = \leq 300 \mu S$, duty cycle $\leq 2\%$.