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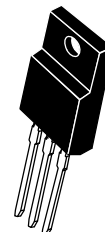
<http://onsemi.com>

# NDFPD1N150C

## N-Channel Power MOSFET 1500V, 0.1A, 150Ω, TO-220F-3FS

### Features

- On-resistance  $R_{DS(on)}=100\Omega$ (typ.)
- Input Capacitance  $C_{iss}=80pF$ (typ.)
- 10V drive



TO-220F-3FS

### Specifications

#### Absolute Maximum Ratings at $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Drain to Source Voltage	$V_{DSS}$		1500	V
Gate to Source Voltage	$V_{GSS}$		$\pm 30$	V
Drain Current (DC)	$I_D$		0.1	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	0.2	A
Allowable Power Dissipation	$P_D$		2.0	W
		$T_c = 25^\circ C$	20	W
Channel Temperature	$T_{ch}$		150	$^\circ C$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ C$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

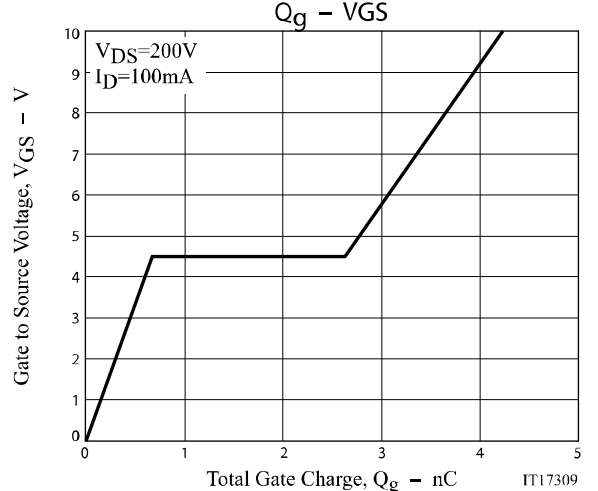
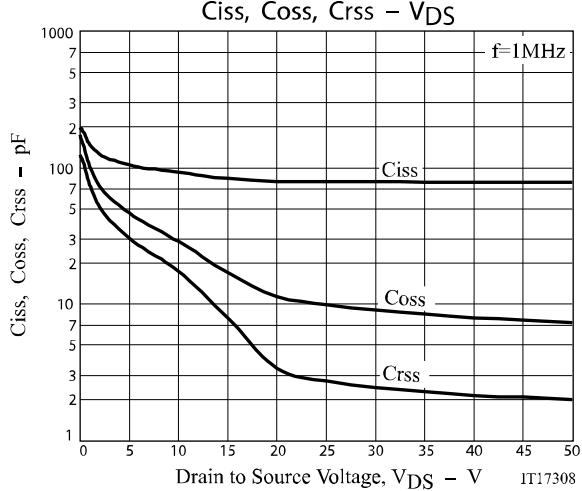
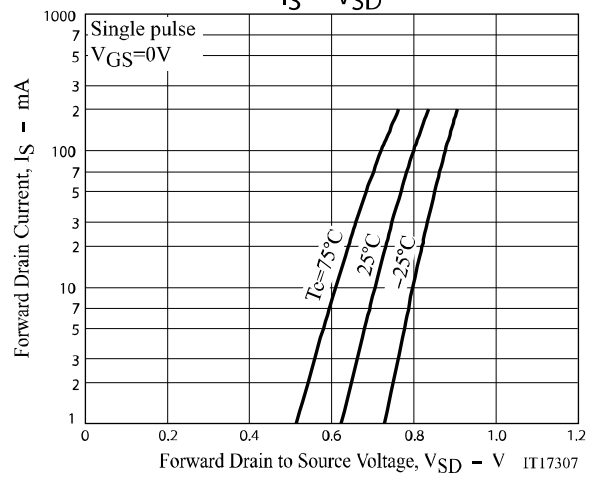
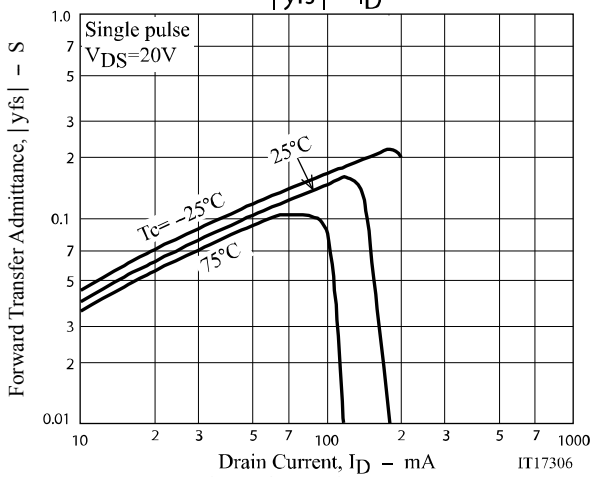
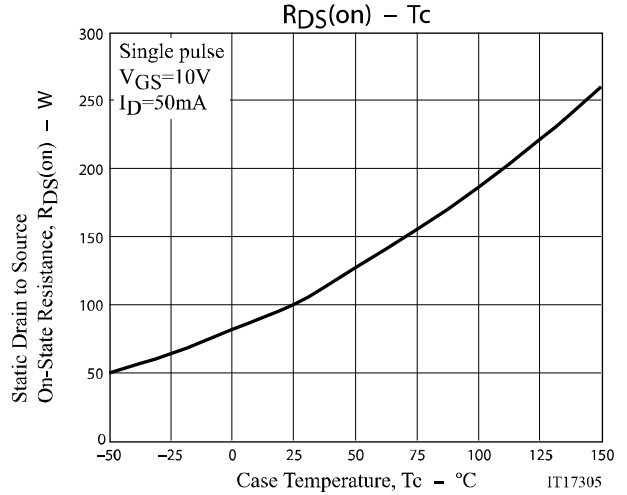
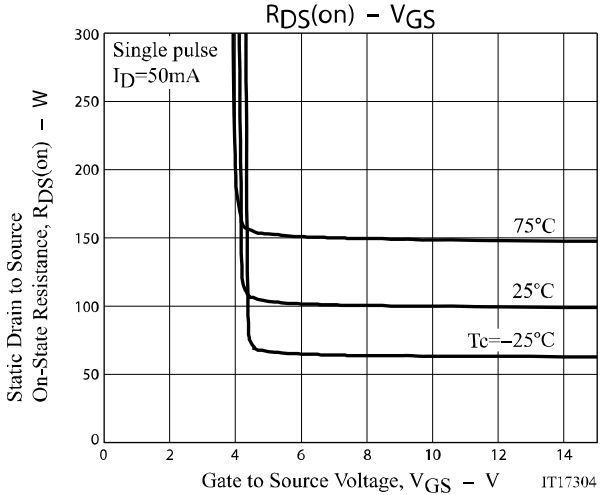
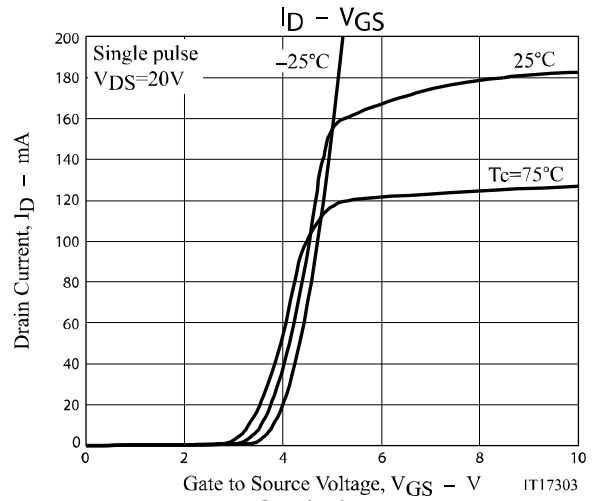
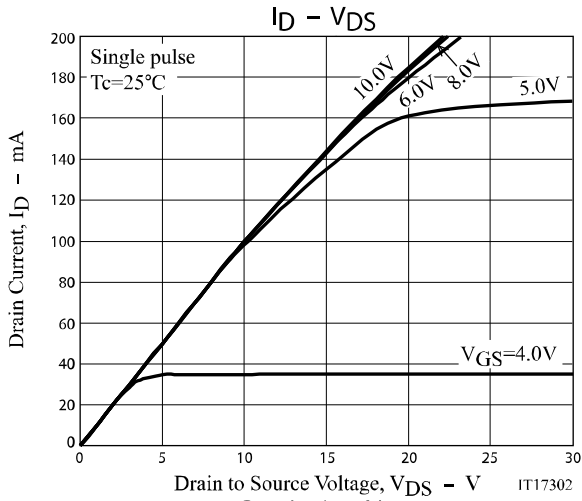
#### Electrical Characteristics at $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings			Unit	
			min	typ	max		
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 10mA$ , $V_{GS} = 0V$	1500			V	
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 1200V$ , $V_{GS} = 0V$			1	mA	
Gate to Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 30V$ , $V_{DS} = 0V$			$\pm 100$	nA	
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V$ , $I_D = 1mA$	2		4	V	
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 20V$ , $I_D = 50mA$		0.1		S	
Static Drain to Source On-State Resistance	$R_{DS(on)}$	$I_D = 50mA$ , $V_{GS} = 10V$		100	150	$\Omega$	
Input Capacitance	$C_{iss}$	$V_{DS} = 30V$ , $f = 1MHz$		80		pF	
Output Capacitance	$C_{oss}$			9		pF	
Reverse Transfer Capacitance	$C_{rss}$			2.5		pF	
Turn-ON Delay Time	$t_{d(on)}$		See Fig.1		8		ns
Rise Time	$t_r$				13		ns
Turn-OFF Delay Time	$t_{d(off)}$			43		ns	
Fall Time	$t_f$			280		ns	
Total Gate Charge	$Q_g$	$V_{DS} = 200V$ , $V_{GS} = 10V$ , $I_D = 0.1A$		4.2		nC	
Gate to Source Charge	$Q_{gs}$			0.7		nC	
Gate to Drain "Miller" Charge	$Q_{gd}$			2		nC	
Diode Forward Voltage	$V_{SD}$		$I_S = 0.1A$ , $V_{GS} = 0V$		0.8	1.5	V

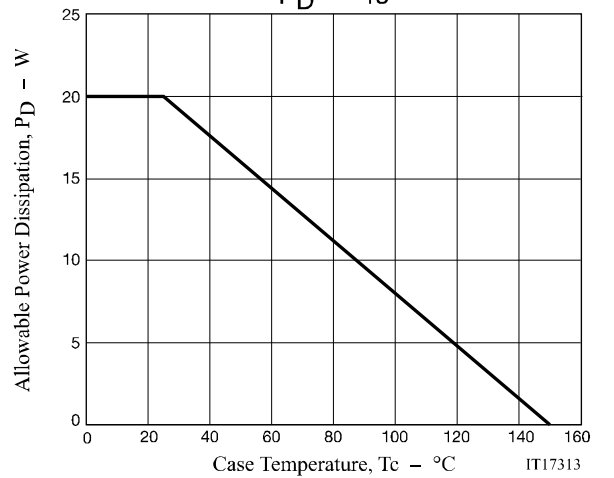
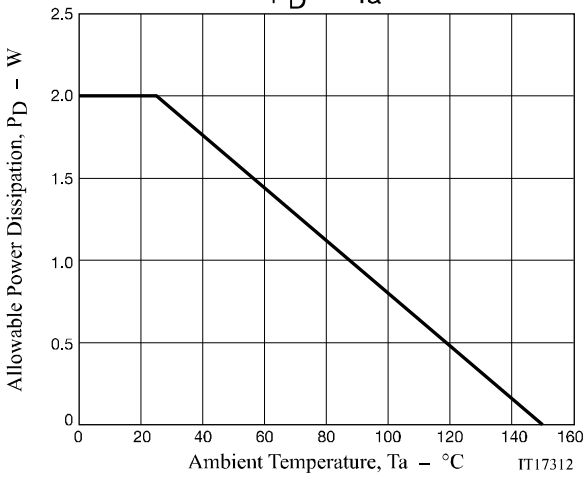
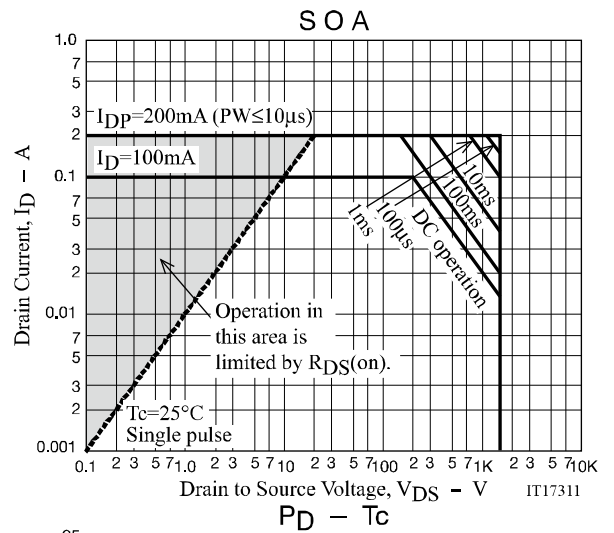
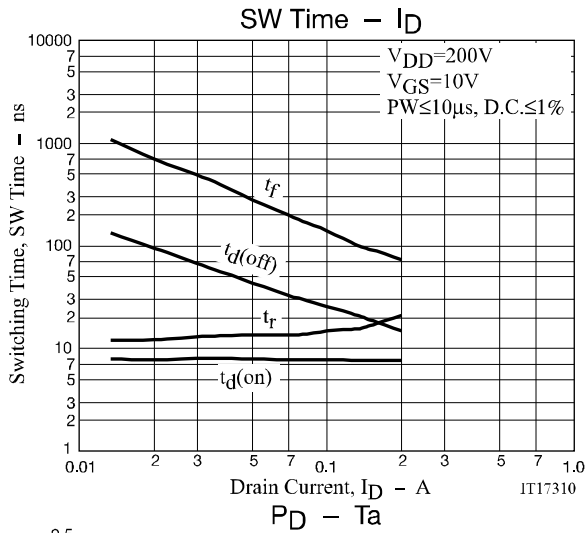
### ORDERING INFORMATION

See detailed ordering and shipping information on page 4 of this data sheet.

# NDFPD1N150C



# NDFPD1N150C



# NDFPD1N150C

## Package Dimensions

NDFPD1N150CG

### TO-220F-3FS

CASE 221AM

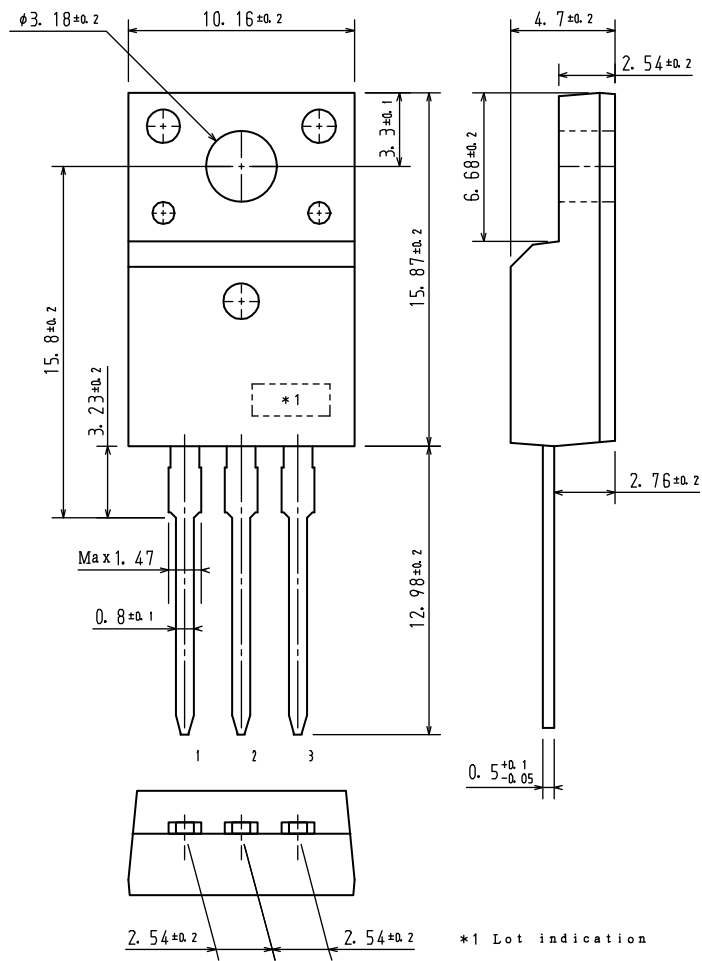
ISSUE O

Unit : mm

1: Gate

2: Drain

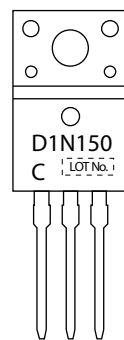
3: Source



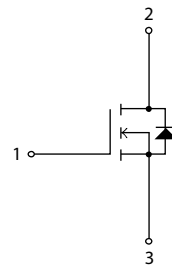
## Ordering & Package Information

Device	Package	Shipping	note
NDFPD1N150CG	TO-220F-3FS SC-67,	50 pcs. / tube	Pb-Free

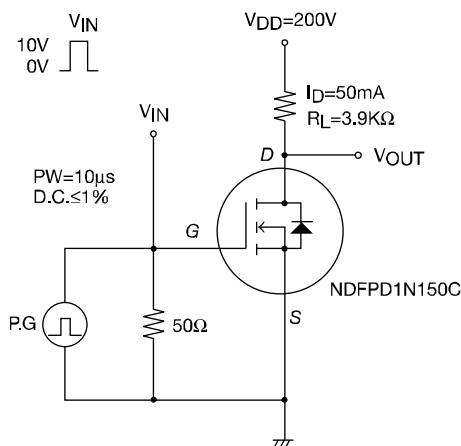
## Marking



## Electrical Connection



## Fig.1 Switching Time Test Circuit



Note on usage : Since the NDFPD1N150C is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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