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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}		± 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.

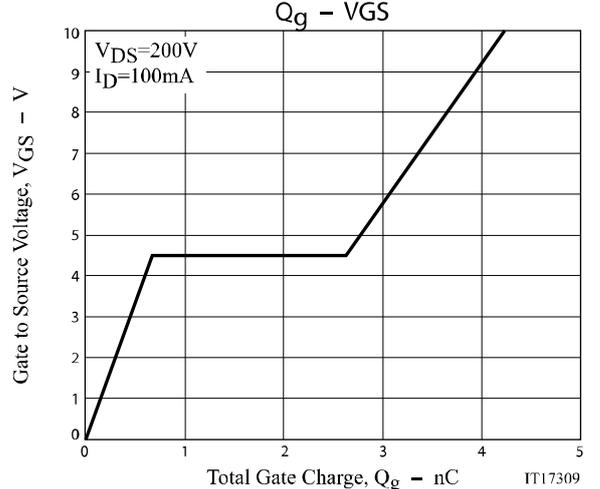
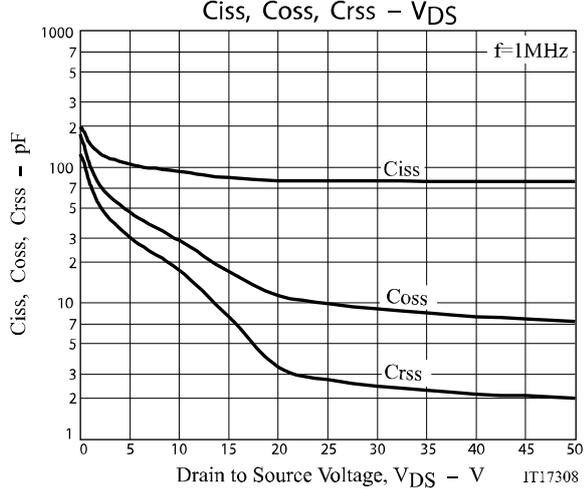
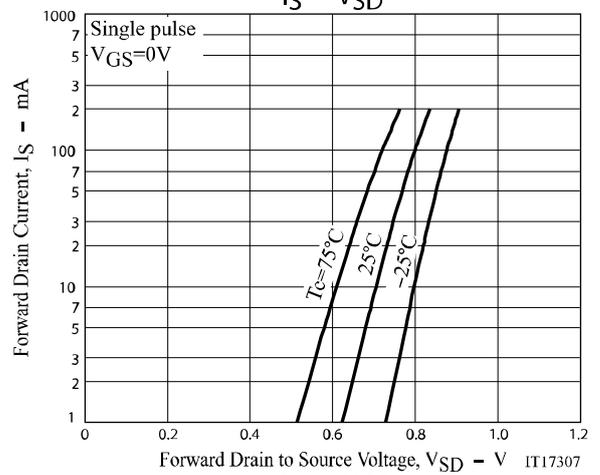
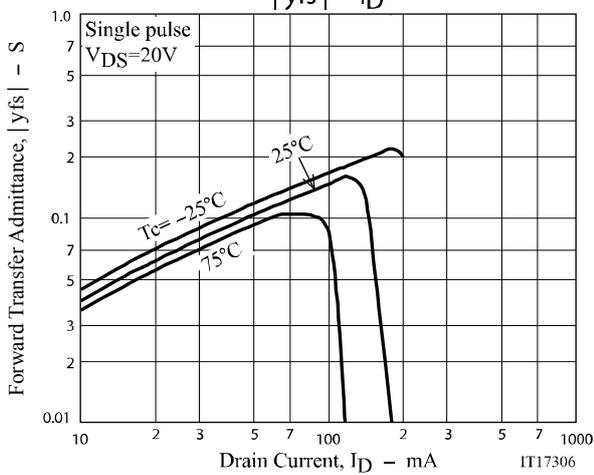
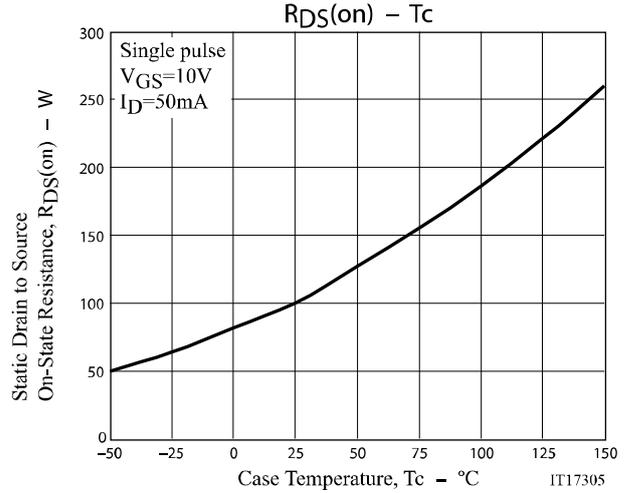
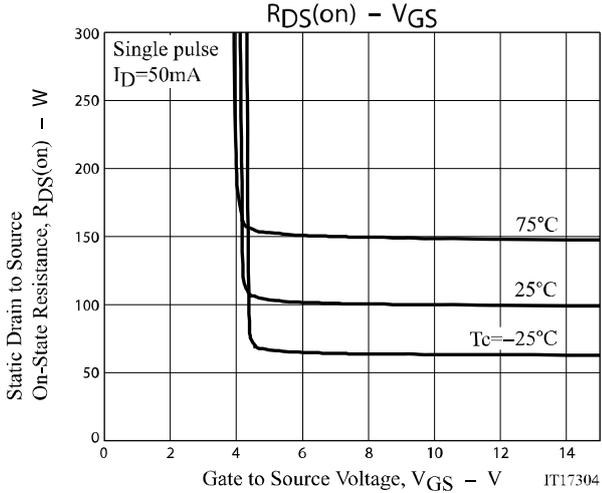
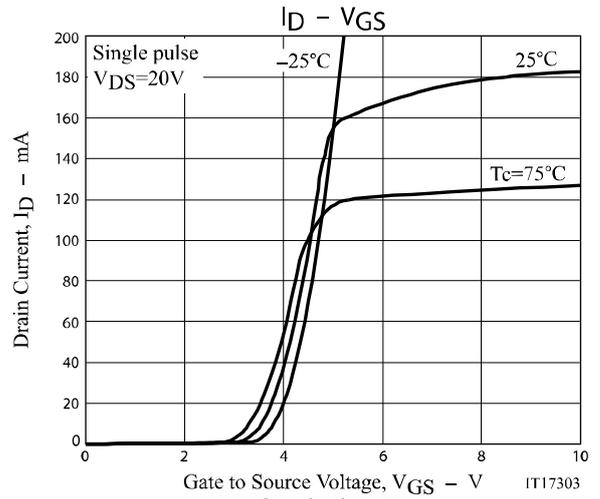
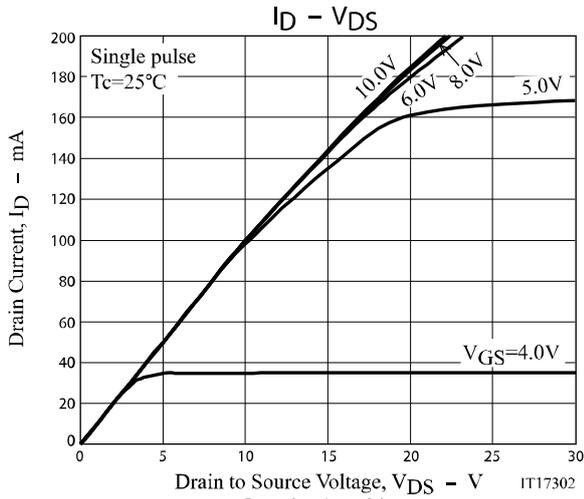
Electrical Characteristics at $T_a = 25^\circ C$

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}	$V_{GS}=\pm 30V$, $V_{DS}=0V$			± 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	Ω	
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

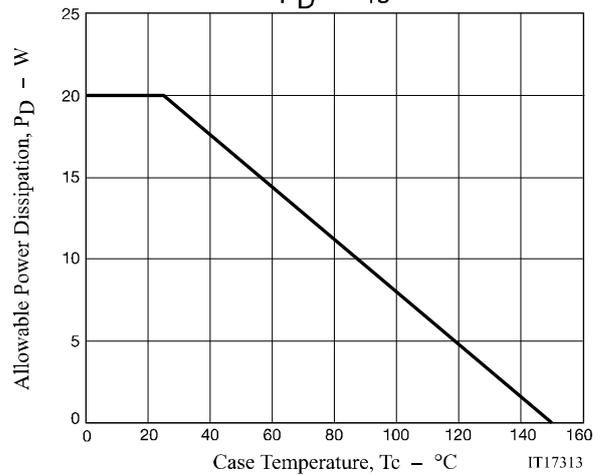
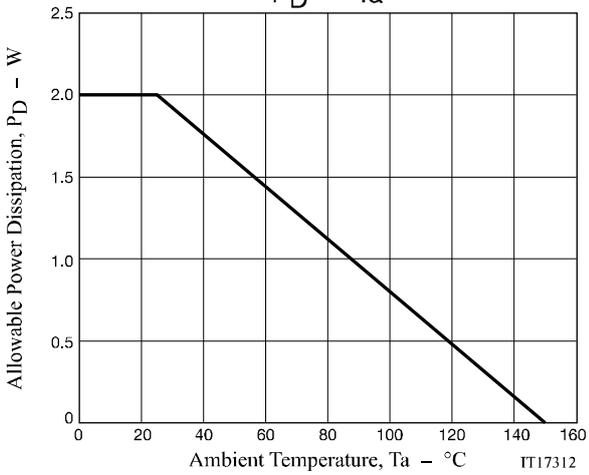
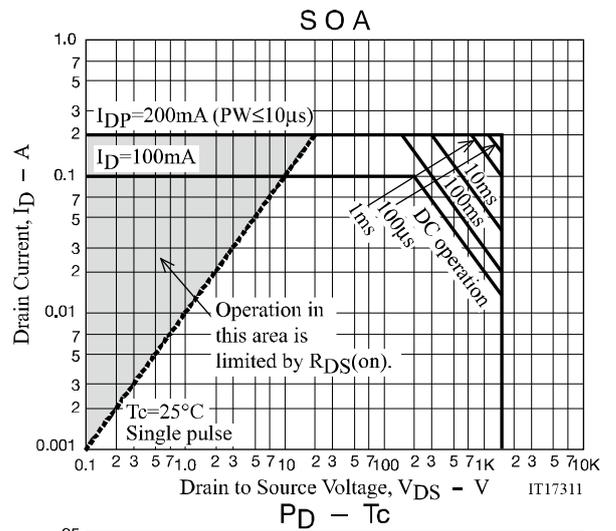
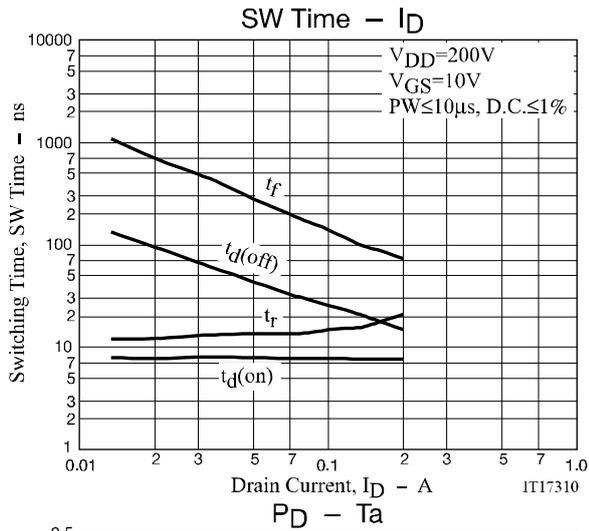
ORDERING INFORMATION

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

NDFPD1N150C



NDFPD1N150C



NDFPD1N150C

Package Dimensions

NDFPD1N150CG

TO-220F-3FS

CASE 221AM

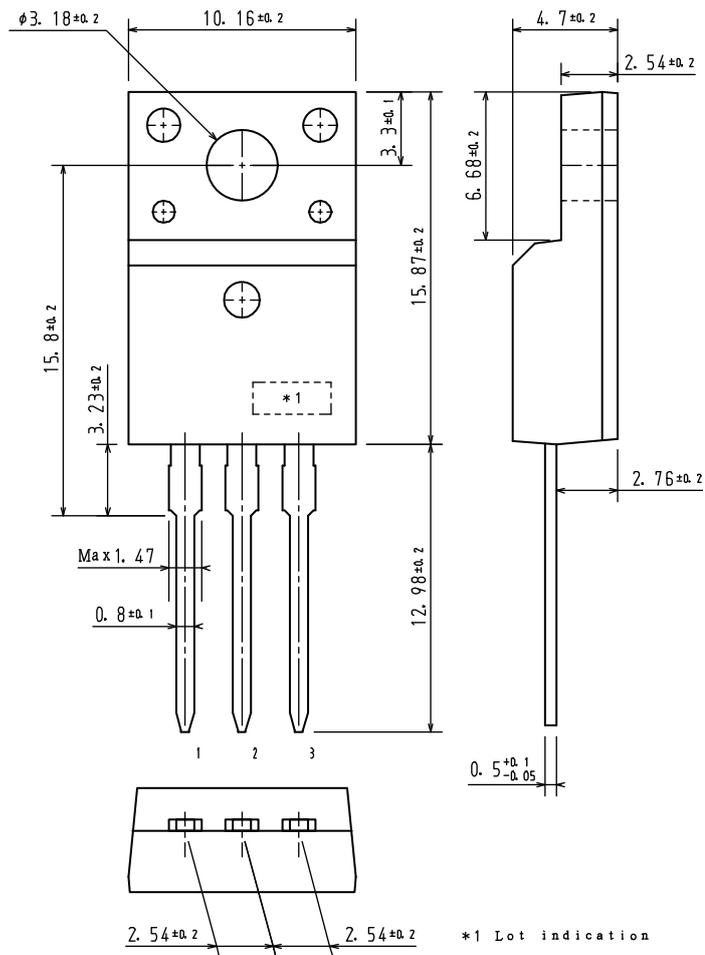
ISSUE O

Unit : mm

1: Gate

2: Drain

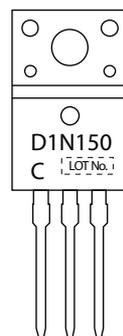
3: Source



Ordering & Package Information

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

Marking



Electrical Connection

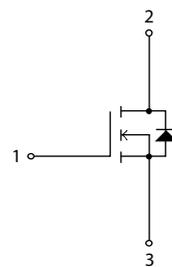
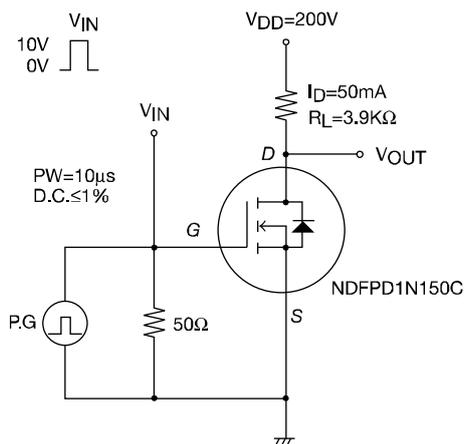


Fig.1 Switching Time Test Circuit



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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