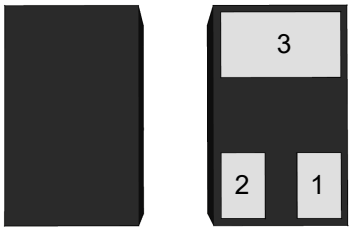
TN2001PDC

P-Channel Enhancement Mode Power MOSFET

DFN1x0.6-3L

Product Summary

- V_{DS}= -20V,I_D= -2A
- $R_{DS(on)}$< 170mΩ @V_{GS}= -4.5V
- $R_{DS(on)}$< 190mΩ @V_{GS}= -2.5V



(Top View) (Bottom View)

Pin	Description
1	Gate
2	Source
3	Drain

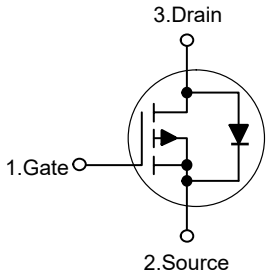
Features

- Advanced Trench Technology
- RoHS and Reach Compliant
- Halogen and Antimony Free
- Moisture Sensitivity Level 1

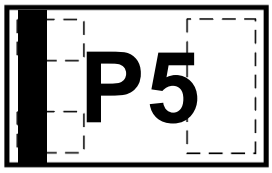
Application

- Load Switch
- PWM Applications
- Power Management

Schematic Diagram



Marking Code



Top View

Absolute Maximum Ratings

Ratings at 25℃ ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$-V_{DS}$	20	V
Gate-Source Voltage	V_{GS}	±12	V
Drain Current-Continuous	$-I_D$	2	A
Drain Current-Pulsed Note1	$-I_{DM}$	6	A
Maximum Power Dissipation	P_D	0.3	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance,Junction-to-Ambient Note2	$R_{\theta JA}$	416	°C/W

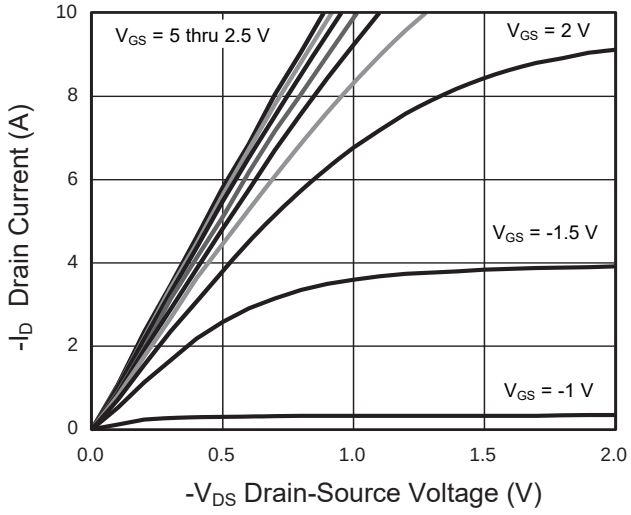
Electrical Characteristics

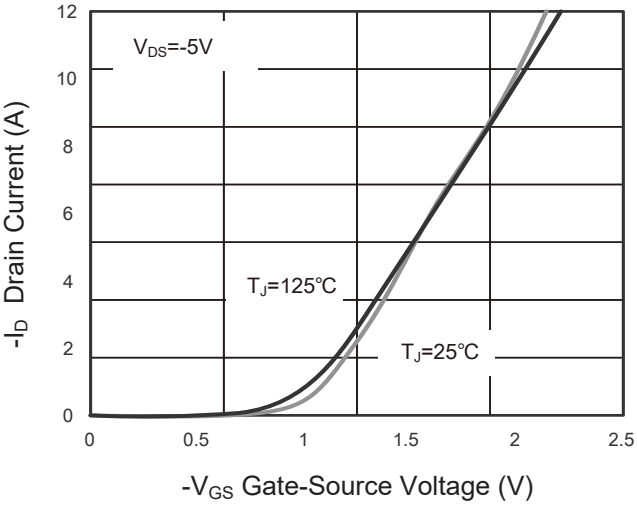
(Ta=25℃ unless otherwise specified)

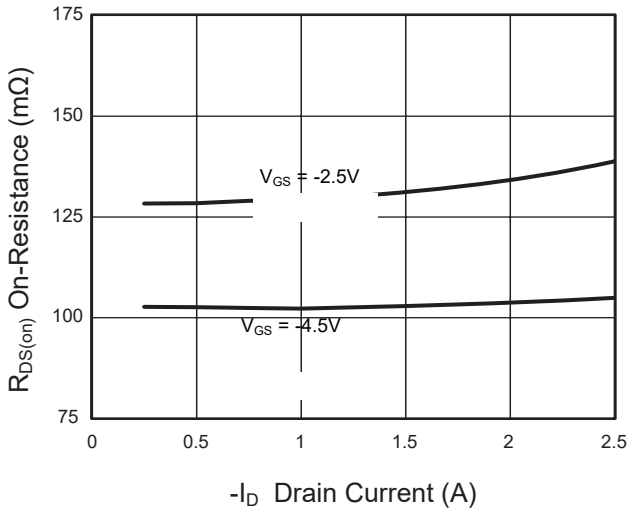
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$-V_{(BR)DSS}$	V_{GS}=0V,I_D=-250μA	20	--	--	V
Zero Gate Voltage Drain Current	$-I_{DSS}$	V_{DS}=-20V,V_{GS}=0V	--	--	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±12V,V_{DS}=0V	--	--	±100	nA
Gate Threshold Voltage Note3	$-V_{GS(th)}$	V_{DS}=V_{GS},I_D=-250μA	0.4	--	1	V
Drain-Source On-Resistance Note3	$R_{DS(on)}$	V_{GS}=-4.5V,I_D=-1A	--	--	170	mΩ
		V_{GS}=-2.5V,I_D=-1A	--	--	190	mΩ
Forward Transconductance Note3	g_{FS}	V_{DS}=-5V,I_D=-1A	4	--	--	S
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=-10V,V_{GS}=0V,f=1MHz	--	405	--	pF
Output Capacitance	C_{oss}		--	75	--	pF
Reverse Transfer Capacitance	C_{rss}		--	55	--	pF
Total Gate Charge	Q_g	V_{DS}=-10V,I_D=-1A, V_{GS}=-4.5V	--	2.9	--	nC
Gate-Source Charge	Q_{gs}		--	0.45	--	nC
Gate-Drain Charge	Q_{gd}		--	0.75	--	nC
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=-10V, I_D=-1A, R_L=10Ω V_{GS}=-4.5V, R_{GEN}=1Ω	--	11	--	nS
Turn-on Rise Time	t_r		--	35	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	30	--	nS
Turn-off Fall Time	t_f		--	10	--	nS
Source-Drain Diode Characteristics						
Diode Forward Voltage Note3	$-V_{SD}$	V_{GS}=0V,I_S=-1A	--	--	1.2	V
Diode Forward Current Note2	$-I_S$		--	--	2	A

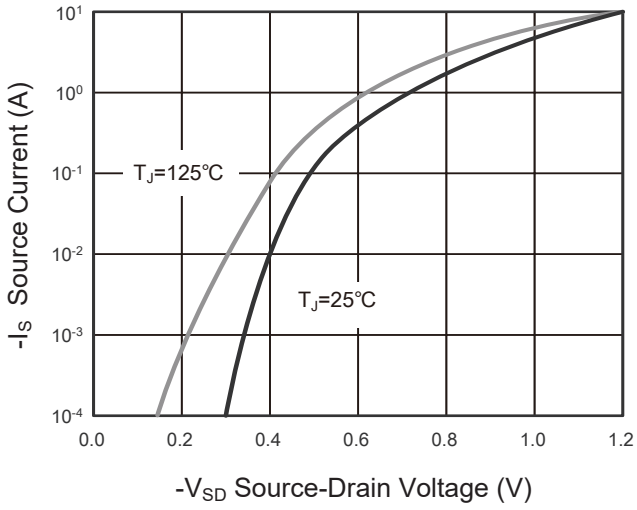
Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t ≤ 10 sec.
3. Pulse Test: Pulse width≤300μs, duty cycle≤2%.

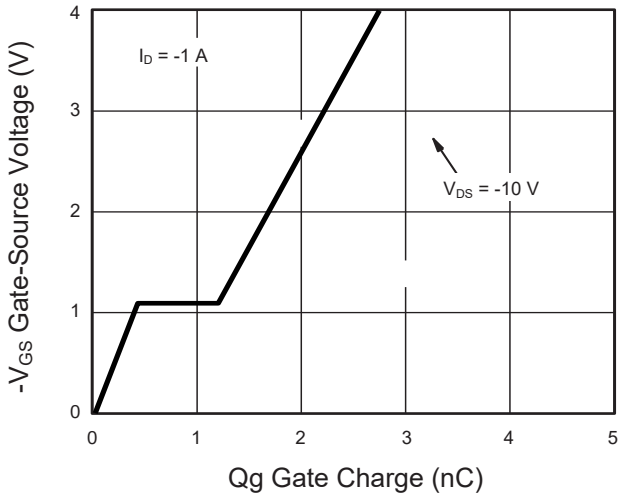
Typical Characteristic Curves

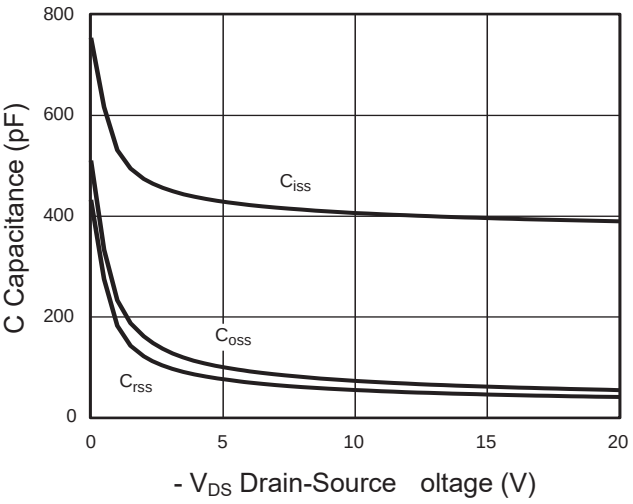


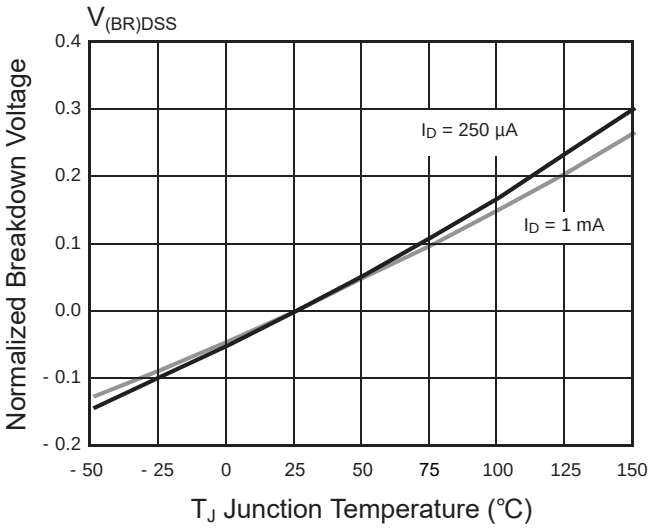


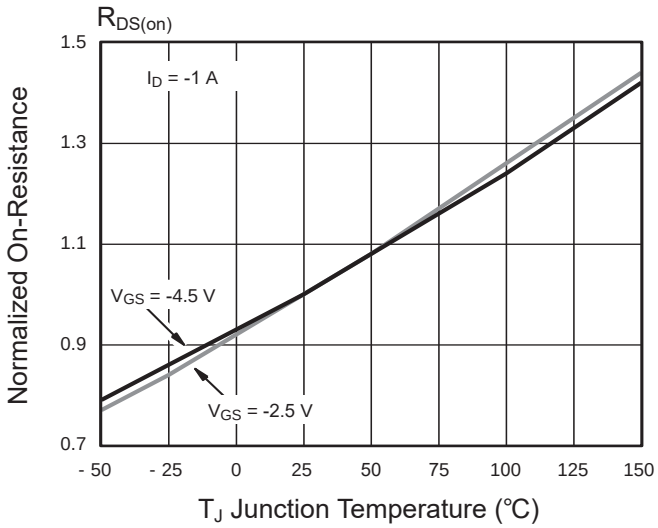






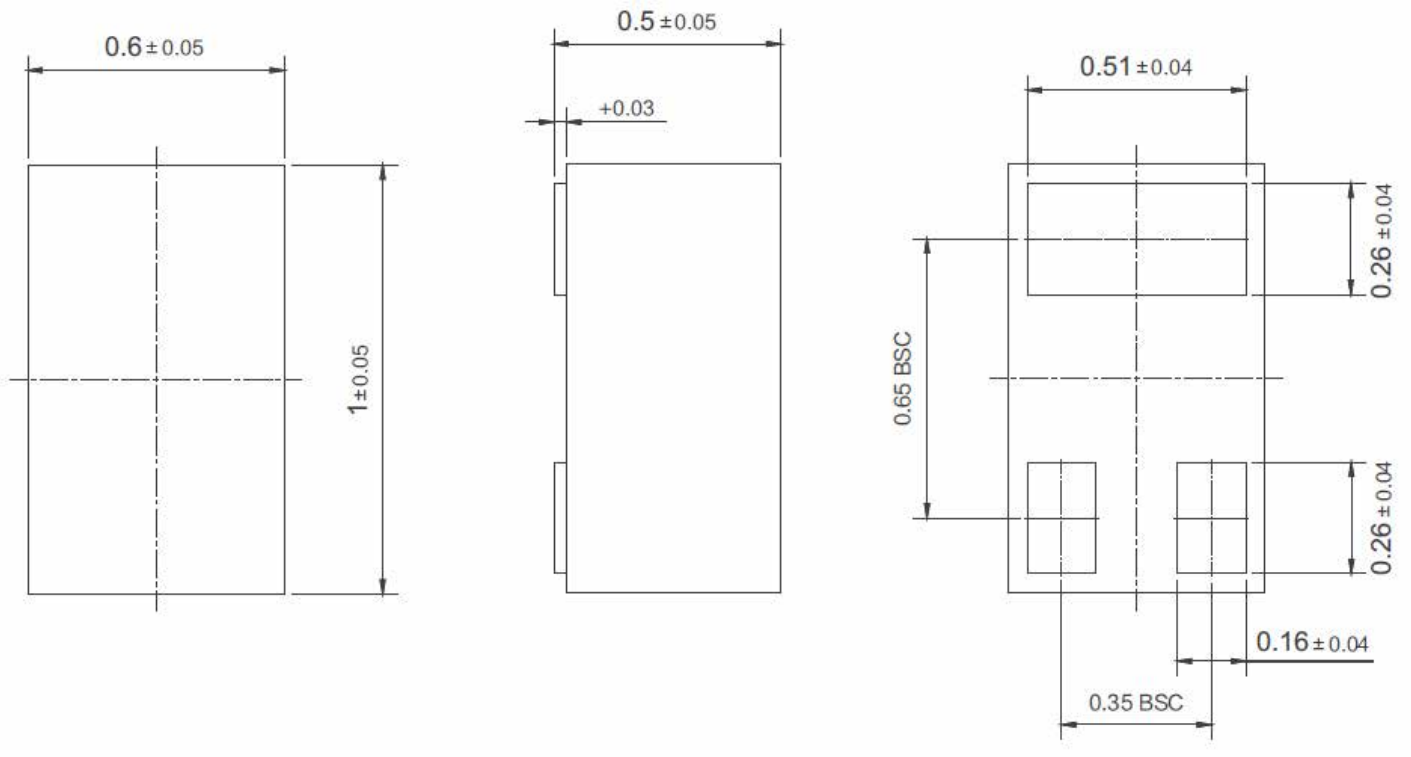






Package Outline

DFN1x0.6-3L-0009 Dimensions in mm



Ordering Information

Device	Package	Shipping
TN2001PDC	DFN1x0.6-3L	10,000PCS/Reel&7inches

Contact Information

TANI website: **http://www.tanisemi.com** Email:tani@tanisemi.com

For additional information, please contact your local Sales Representative.

