

Product Summary

- $V_{DS} = -20V, I_D = -6A$
- $R_{DS(on)} < 50m\Omega @ V_{GS} = -4.5V$
- $R_{DS(on)} < 60m\Omega @ V_{GS} = -2.5V$

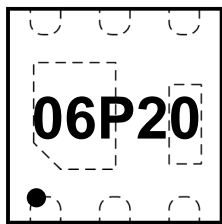
Features

- ESD protected(HBM) up to 2KV
- Halogen and Antimony Free
- Moisture Sensitivity Level 1

Application

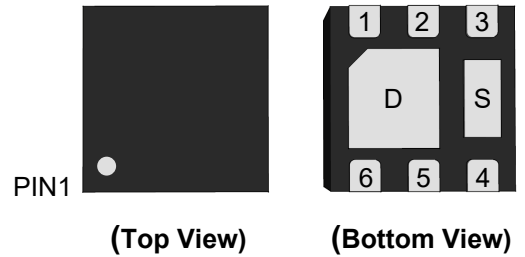
- Power management
- PWM application

Marking Code



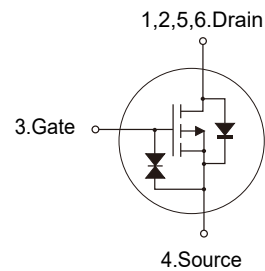
Top View

DFN2x2-6L



Pin	Description
1,2,5,6	Drain
3	Gate
4	Source

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$-V_{DS}$	20	V
Gate-Source Voltage	V_{GS}	± 8	V
Drain Current-Continuous	$-I_D$	6	A
Maximum Power Dissipation	P_D	1.6	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance, Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	78.1	°C/W
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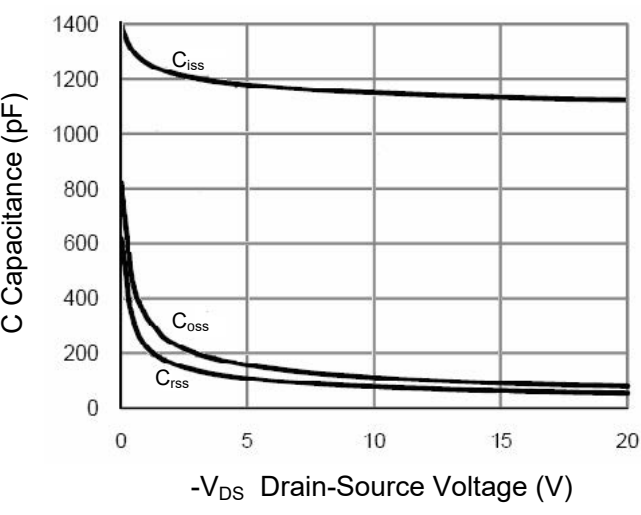
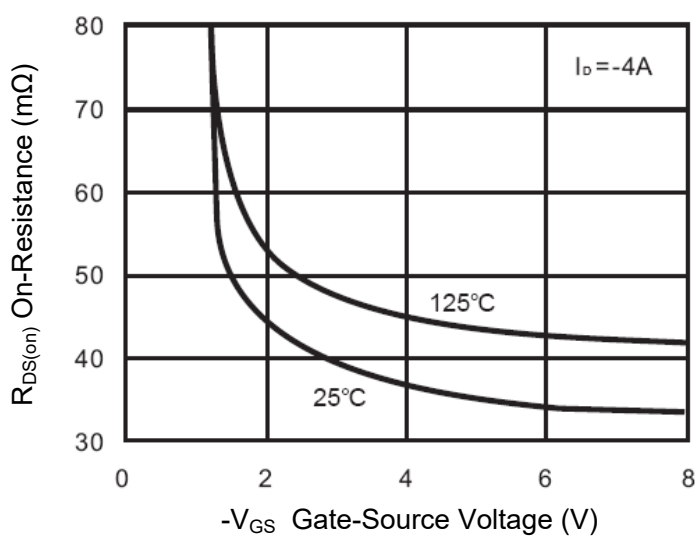
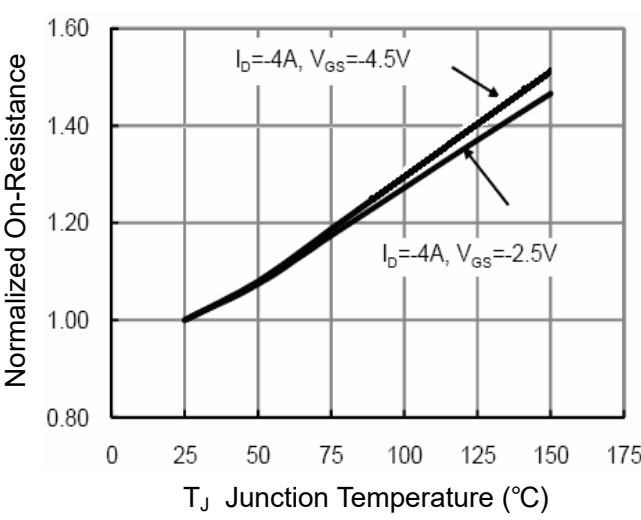
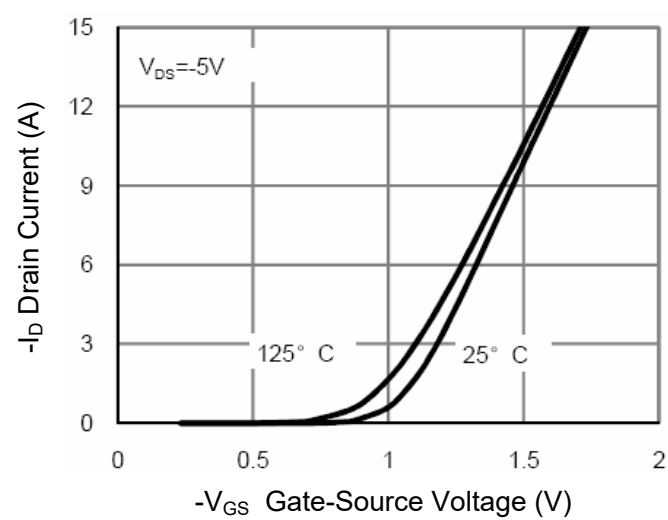
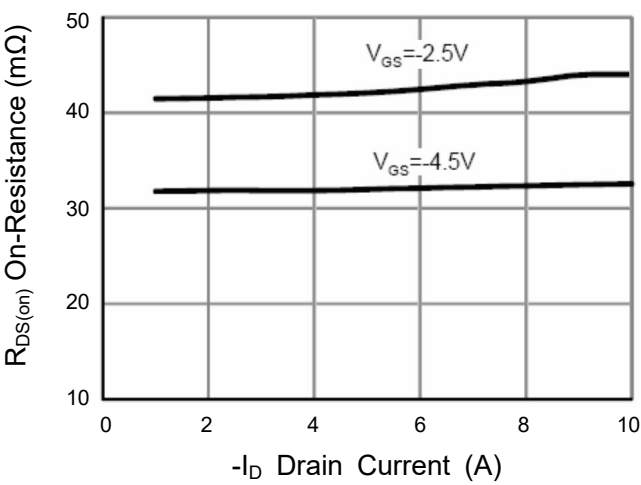
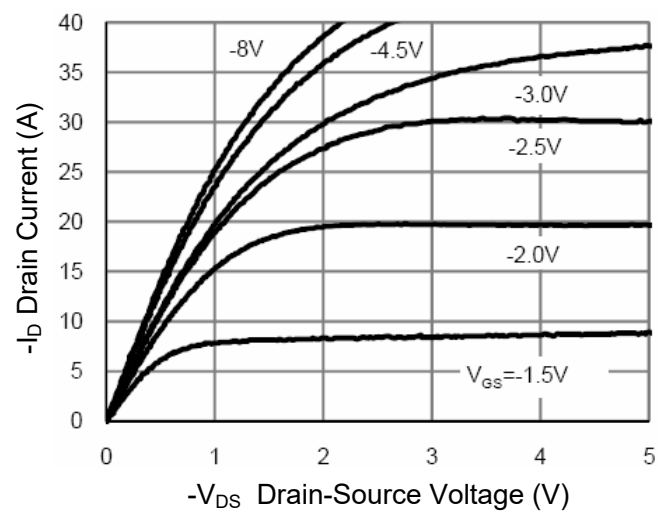
Electrical Characteristics

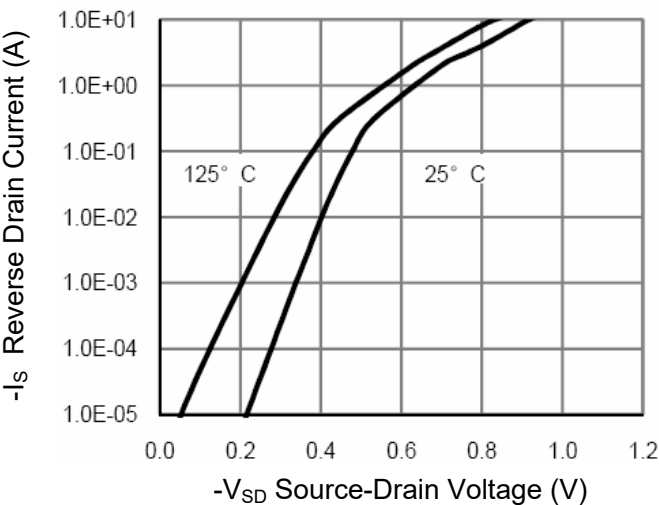
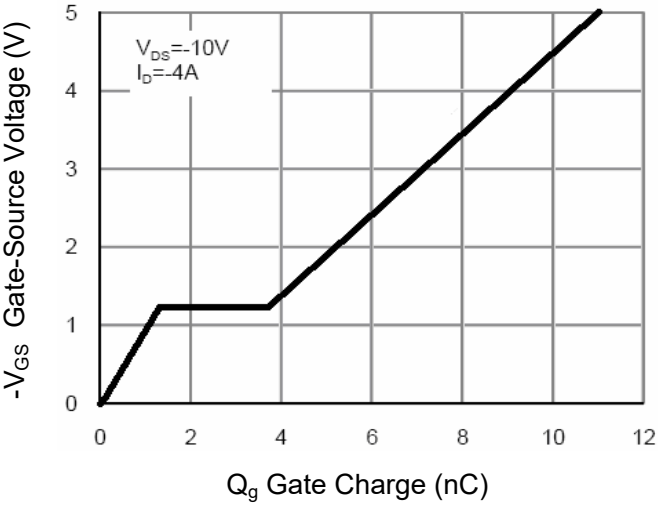
(Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$-V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	20	--	--	V
Zero Gate Voltage Drain Current	$-I_{DSS}$	$V_{DS}=-20V, V_{GS}=0V$	--	--	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 8V, V_{DS}=0V$	--	--	± 10	μA
Gate Threshold Voltage ^{Note2}	$-V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	0.3	0.65	1	V
Drain-Source On-Resistance ^{Note2}	$R_{DS(on)}$	$V_{GS}=-4.5V, I_D=-4A$	--	33	50	m Ω
		$V_{GS}=-2.5V, I_D=-4A$	--	42	60	m Ω
Forward Transconductance ^{Note2}	g_{FS}	$V_{DS}=-5V, I_D=-4A$	8	--	--	S
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=-10V, V_{GS}=0V, f=1MHz$	--	1181.1	--	pF
Output Capacitance	C_{oss}		--	121.3	--	pF
Reverse Transfer Capacitance	C_{rss}		--	114.8	--	pF
Total Gate Charge	Q_g	$V_{DS}=-10V,$ $I_D=-4A, V_{GS}=-4.5V$	--	10.2	--	nC
Gate-Source Charge	Q_{gs}		--	1.3	--	nC
Gate-Drain Charge	Q_{gd}		--	2.4	--	nC
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=-10V, R_L=2.5\Omega,$ $V_{GS}=-4.5V, R_G=3\Omega$	--	12	--	nS
Turn-on Rise Time	t_r		--	10	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	19	--	nS
Turn-off Fall Time	t_f		--	25	--	nS
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note2}	$-V_{SD}$	$V_{GS}=0V, I_S=-6A$	--	--	1.2	V
Diode Forward Current ^{Note1}	$-I_S$		--	--	6	A

Note: 1. Surface Mounted on FR4 Board, $t \leq 10$ sec.2. Pulse Test: Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

Typical Characteristic Curves

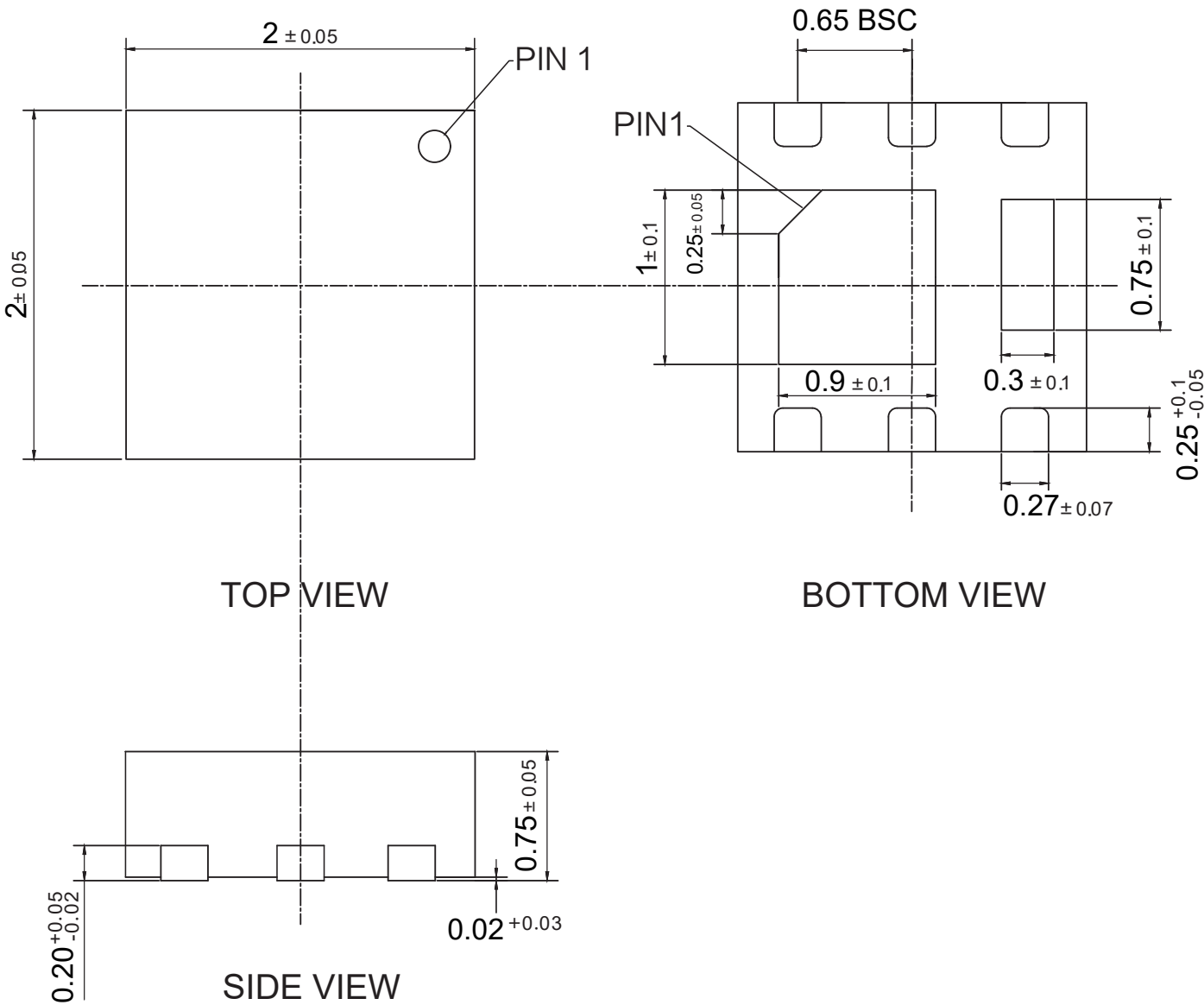




Package Outline

DFN2x2-6L-0001

Dimensions in mm



Ordering Information

Device	Package	Shipping
TN06P20KDF	DFN2x2-6L	3,000PCS/Reel&7inches

Contact Information

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

For additional information, please contact your local Sales Representative.



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The product parameters described in the product specification are numerical values, characteristics, and functions obtained through actual testing or theoretical calculations of the product in an independent or ideal state. Due to the complexity of product applications and variations in test conditions and equipment, there may be slight fluctuations in parameter test values. TANI shall not guarantee that the actual performance of the product when installed in the customer's system or equipment will be entirely consistent with the product specification, especially concerning dynamic parameters. It is recommended that users consult with professionals for product selection and system design. Users should also thoroughly validate and assess whether the actual parameters and performance when installed in their respective systems or equipment meet their requirements or expectations. Additionally, users should exercise caution in verifying product compatibility issues, and TANI assumes no responsibility for the application of the product. TANI strives to provide accurate and up-to-date information to the best of our ability. However, due to technical, human, or other reasons, TANI cannot guarantee that the information provided in the product specification is entirely accurate and error-free. TANI shall not be held responsible for any losses or damages resulting from the use or reliance on any information in these product specifications.

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