

Product Summary

- $V_{DS} = -30V, I_D = -11A$
- $R_{DS(on)} < 17m\Omega @ V_{GS} = -10V$
- $R_{DS(on)} < 22m\Omega @ V_{GS} = -4.5V$

DFN2x2-6L

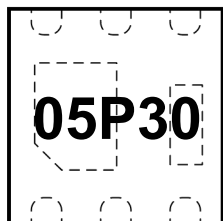
Features

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

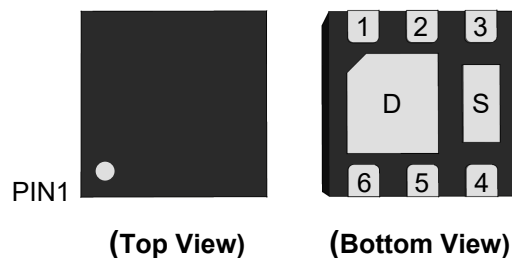
Application

- Load Switch
- PWM Applications
- Power Management

Marking Code

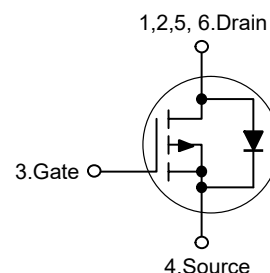


Top View



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.

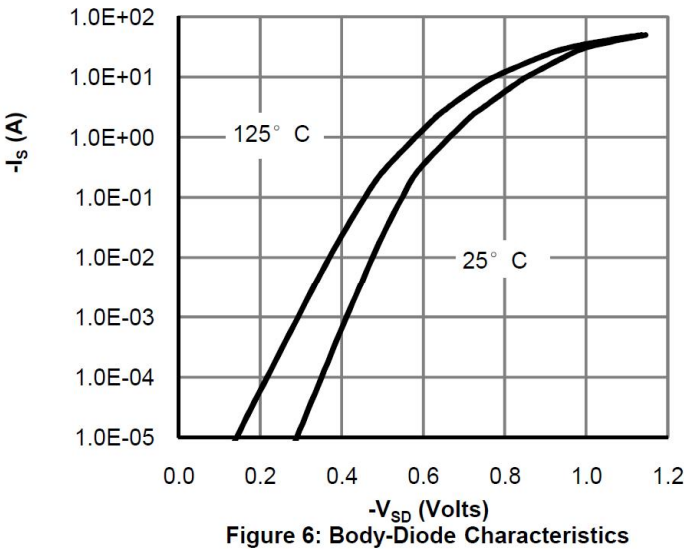
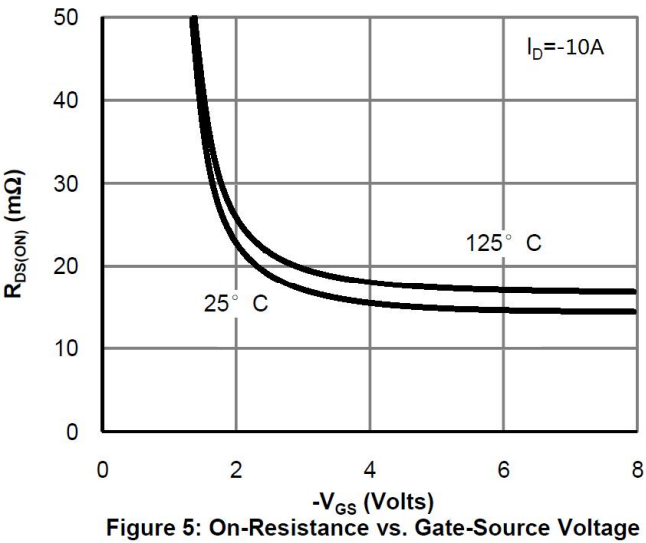
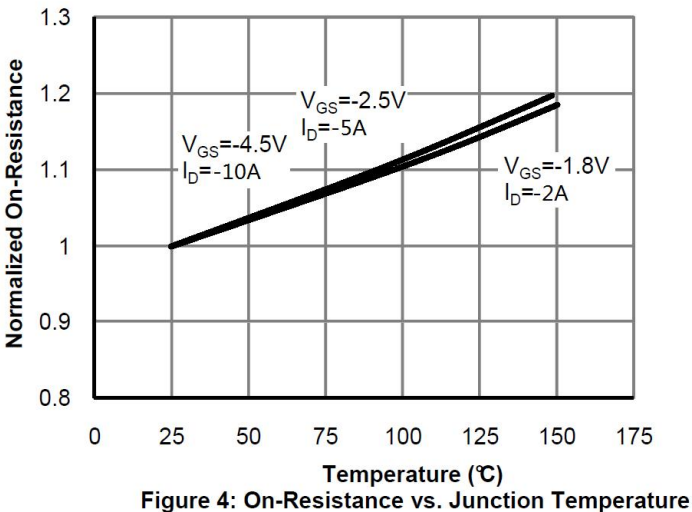
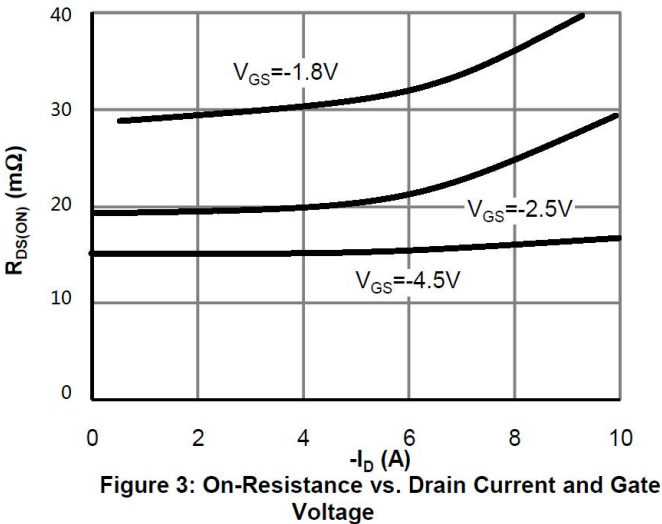
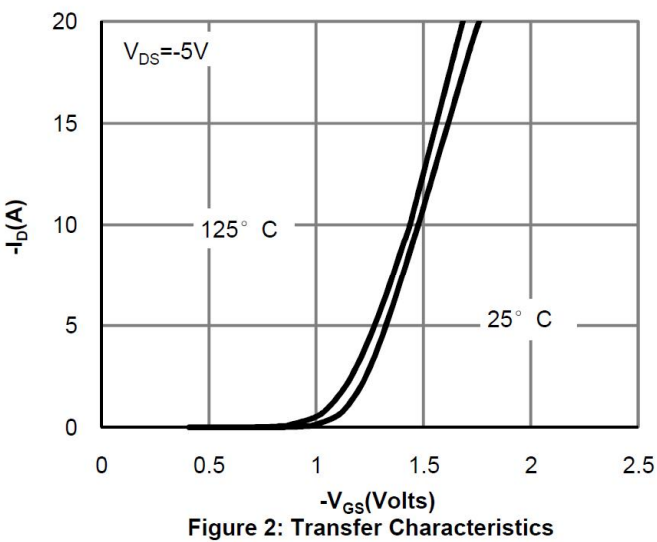
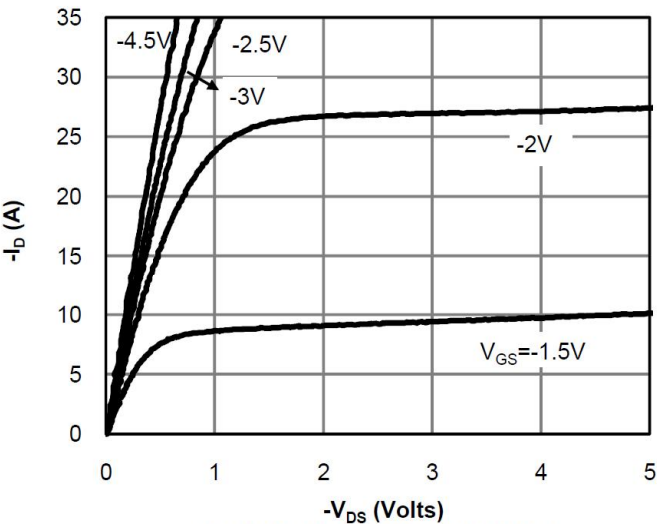
Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DSS}	-20	V
Gate-Source Voltage		V_{GSS}	± 12	V
Continuous Drain Current		$I_D (T_a = 25^\circ C)$	-11	A
Pulsed Drain Current		I_{DM}	-44	A
Avalanche Current		I_{AS}	13	A
Avalanche energy $L=0.5mH$		E_{AS}	59	mJ
Power Dissipation for Single Operation		$P_D (T_a = 25^\circ C)$	3.0	W
Maximum Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55 ~ 150	$^\circ C$
Thermal Resistance-Junction to Ambient	$t \leq 10s$	$R_{\theta JA}$	40	$^\circ C/W$
	Steady State		75	$^\circ C/W$

Electrical Characteristics

(Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D = -250\mu A$ $V_{GS} = 0V$	-20	-23		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -20V$ $V_{GS} = 0V$			-1.0	μA
Gate-Body leakage current	I_{GSS}	$V_{DS} = 0V$ $V_{GS} = \pm 12V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$ $I_D = -250\mu A$	-0.4	-0.7	-1.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS} = -4.5V$ $I_D = -10A$		15	17	m Ω
		$V_{GS} = -2.5V$ $I_D = -5A$		19	25	
		$V_{GS} = -1.8V$ $I_D = -1A$		27	38	
Diode Forward Voltage	V_{SD}	$I_S = -1A$ $V_{GS} = 0V$			-1.2	V
Total Gate Charge	Q_g	$V_{GS} = -4.5V$ $V_{DS} = -6V$ $I_D = -8A$		12.7		nC
Gate-Source Charge	Q_{gs}			1.7		
Gate-Drain Charge	Q_{gd}			3.4		
Gate resistance	R_g	$V_{GS} = 0V$, $V_{DS} = 0V$, $f = 1MHz$		13.5		
Input Capacitance	C_{iss}	$V_{GS} = 0V$ $V_{DS} = -20V$ $f = 1MHz$		2550		pF
Output Capacitance	C_{oss}			205		
Reverse Transfer Capacitance	C_{rss}			190		
Turn-on Delay Time	$t_{d(ON)}$	$V_{GS} = -4.5V$ $V_{DS} = -6V$ $R_L = 0.75\Omega$ $R_{GEN} = 3\Omega$		11		ns
Turn-on Rise Time	t_r			25		
Turn-off Delay Time	$t_{d(OFF)}$			70		
Turn-off Fall Time	t_f			41.5		

Typical Characteristic Curves



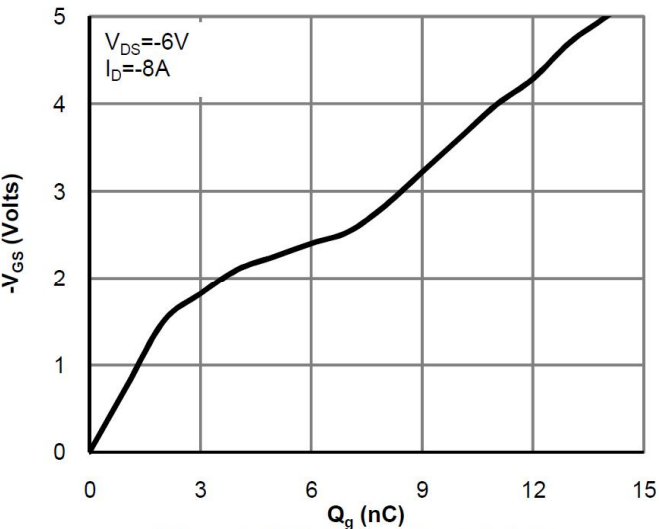


Figure 7: Gate-Charge Characteristics

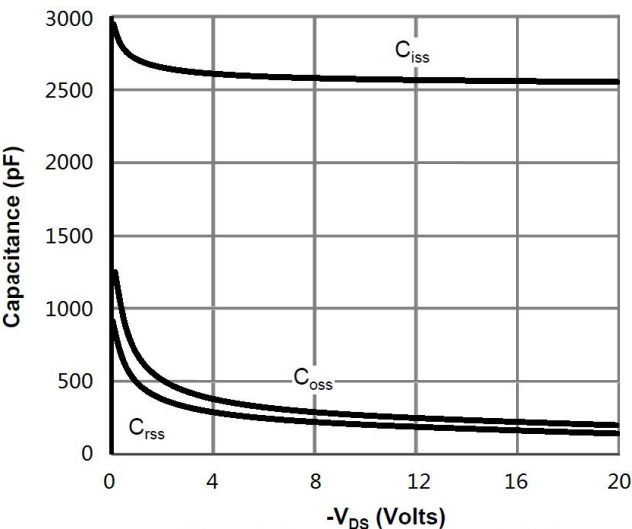


Figure 8: Capacitance Characteristics

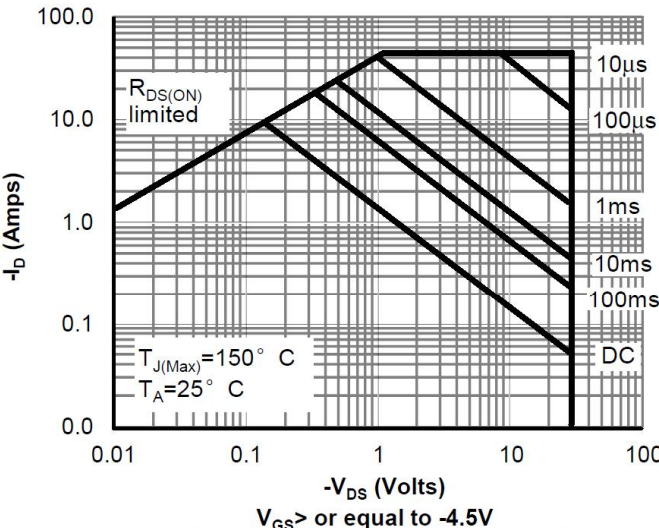


Figure 9: Maximum Forward Biased Safe Operating Area

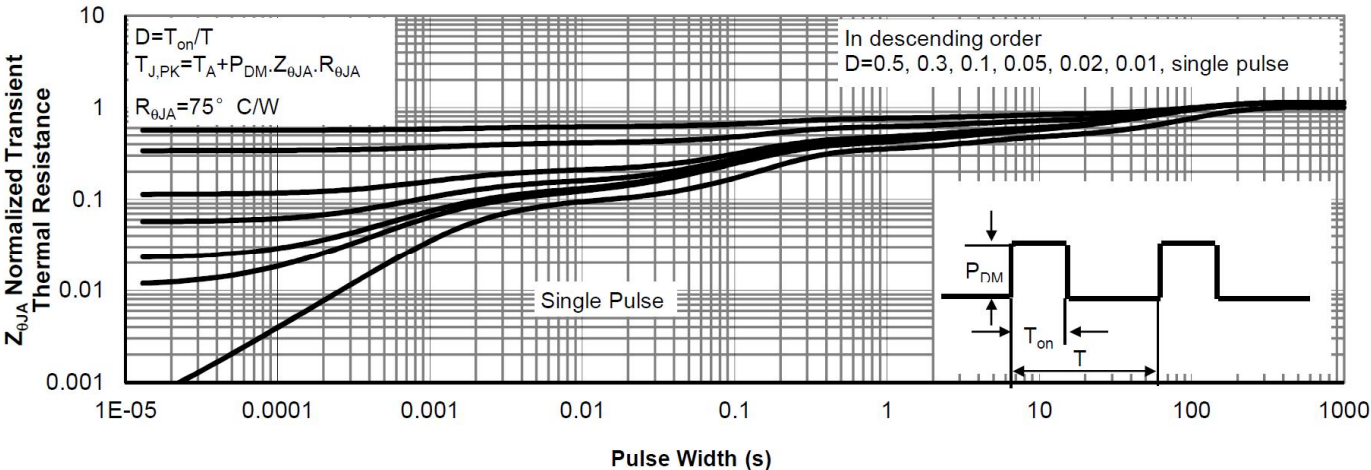
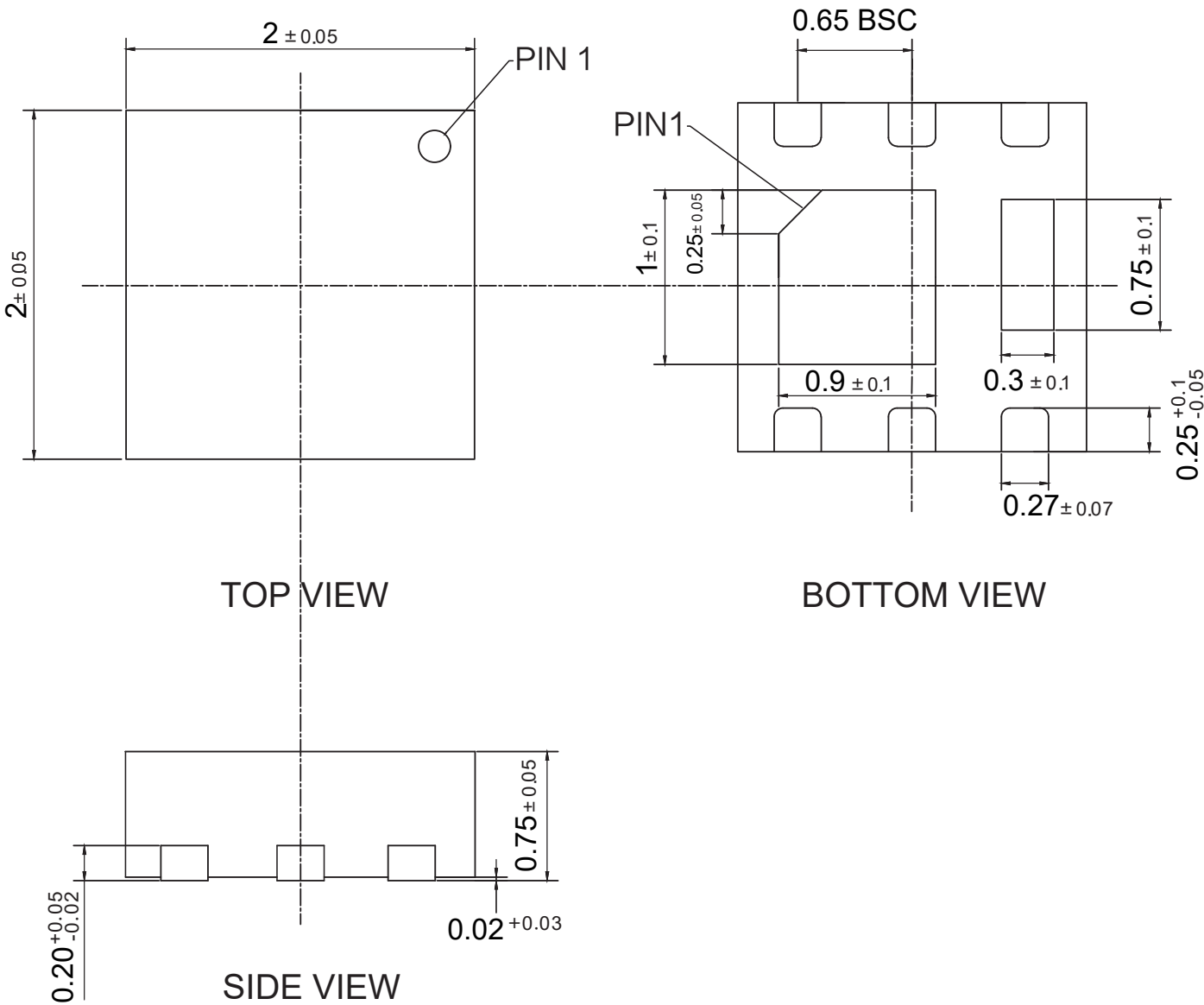


Figure 10: Normalized Maximum Transient Thermal Impedance

Package Outline

DFN2x2-6L-0001

Dimensions in mm



Ordering Information

Device	Package	Shipping
TN05P30JDF	DFN2x2-6L	3,000PCS/Reel&7inches

Contact Information

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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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