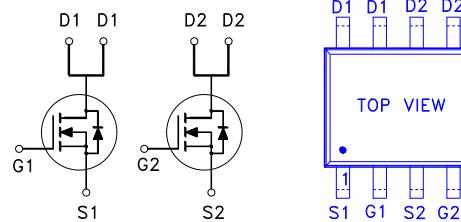


NIKO-SEM
**Dual N-Channel Enhancement Mode
Field Effect Transistor**
PV628DA
SOP-8
Halogen-Free & Lead-Free
PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
30V	14mΩ	8.1A


G: GATE
D: DRAIN
S: SOURCE
ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ C$ Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS		UNITS
Drain-Source Voltage		V_{DS}	30		V
Gate-Source Voltage		V_{GS}	± 20		V
Continuous Drain Current	$T_A = 25^\circ C$	I_D	8.1		A
	$T_A = 70^\circ C$		6.5		
Pulsed Drain Current ¹		I_{DM}	31		
Avalanche Current		I_{AS}	14.6		
Avalanche Energy	$L = 0.1\text{mH}$	E_{AS}	10.7		mJ
Power Dissipation	$T_A = 25^\circ C$	P_D	1.7		W
	$T_A = 70^\circ C$		1.1		
Junction & Storage Temperature Range		T_J, T_{stg}	-55 to 150		°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		70	°C / W
Junction-to-Case	$R_{\theta JC}$		25	

¹Pulse width limited by maximum junction temperature.²The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ C$.**ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ C$, Unless Otherwise Noted)**

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.3	1.75	2.3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 24V, V_{GS} = 0V$			1	μA
		$V_{DS} = 20V, V_{GS} = 0V, T_J = 55^\circ C$			10	

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Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 6.8A$		14	20	$m\Omega$
		$V_{GS} = 10V, I_D = 8A$		11	14	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 8A$		32		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$		431		pF
Output Capacitance	C_{oss}			86		
Reverse Transfer Capacitance	C_{rss}			53		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		3.8		Ω
Total Gate Charge ²	$Q_{g(VGS=10V)}$	$V_{DS} = 15V, I_D = 8A$		9.2		nC
	$Q_{g(VGS=4.5V)}$			5		
Gate-Source Charge ²	Q_{gs}			1.4		
Gate-Drain Charge ²	Q_{gd}			2.6		
Turn-On Delay Time ²	$t_{d(on)}$			18		
Rise Time ²	t_r	$V_{DS} = 15V, I_D \geq 8A, V_{GS} = 10V, R_{GEN} = 6\Omega$		20		nS
Turn-Off Delay Time ²	$t_{d(off)}$			34		
Fall Time ²	t_f			19		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25^\circ C$)						
Continuous Current	I_S				1.7	A
Forward Voltage ¹	V_{SD}	$I_F = 8A, V_{GS} = 0V$			1	V
Diode Reverse Recovery Time	t_{rr}	$I_F = 8A, dI/dt = 100A/\mu s$		9.6		nS
Diode Reverse Recovery Charge	Q_{rr}			1.8		nC

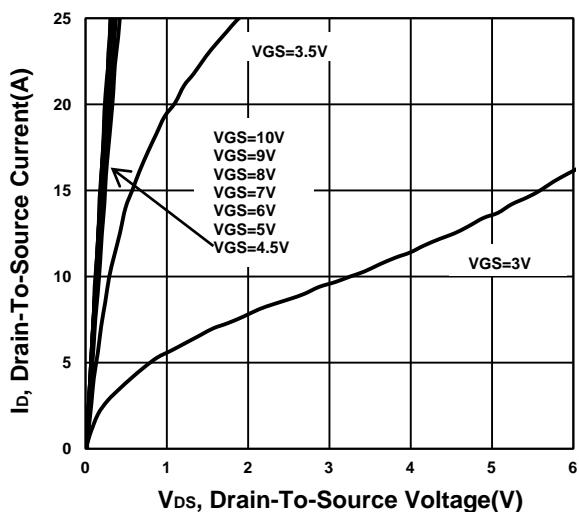
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.²Independent of operating temperature.

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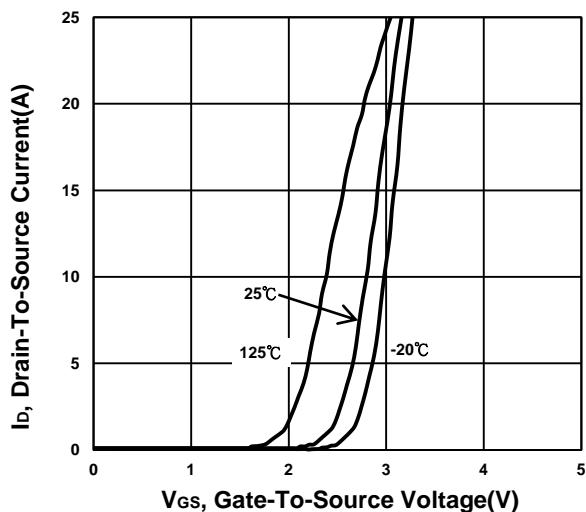
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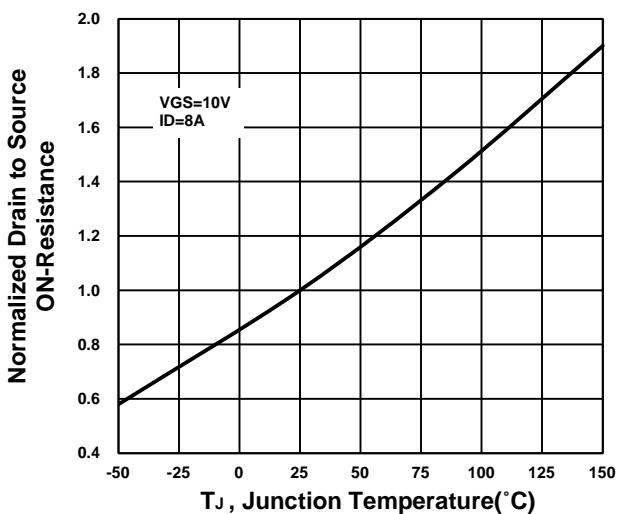
Output Characteristics



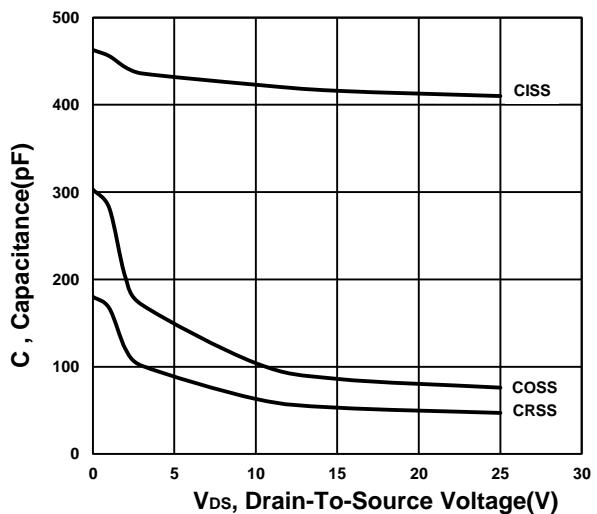
Transfer Characteristics



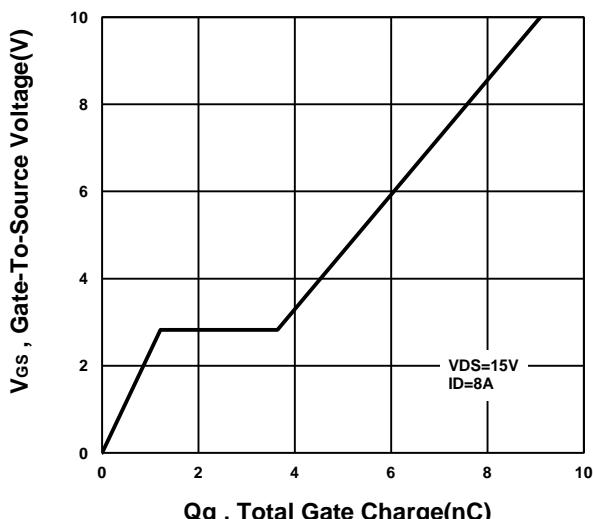
On-Resistance VS Temperature



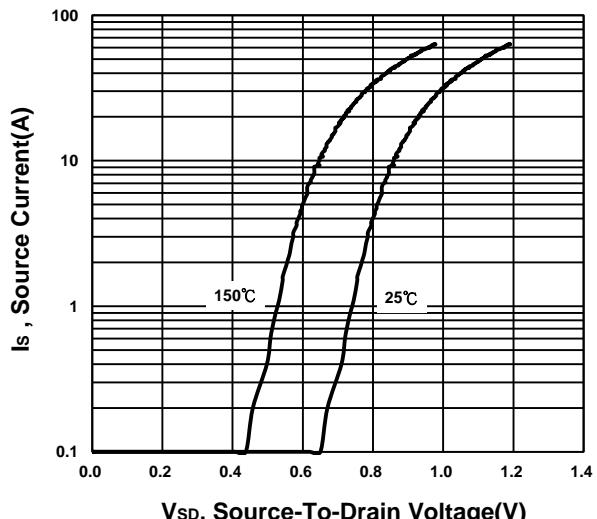
Capacitance Characteristic



Gate charge Characteristics



Source-Drain Diode Forward Voltage



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