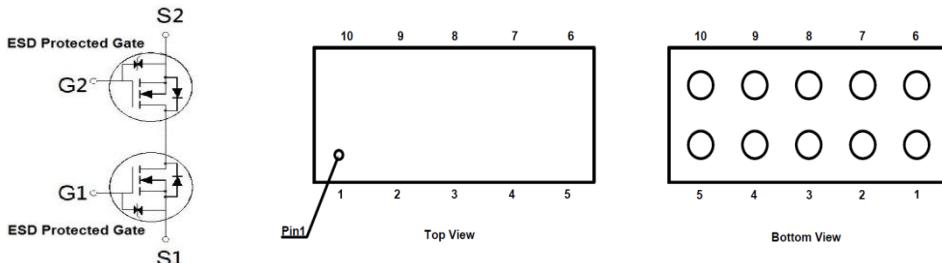


**NIKO-SEM**
**Common Drain N-Channel  
Power MOSFET**
**PQ6V2JN**  
**WLCSP**  
**Halogen-Free & Lead-Free**
**PRODUCT SUMMARY**

$V_{(BR)SSS}$	$R_{SS(ON)}$	$I_S$
30V	7.8mΩ	14A

**ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$  Unless Otherwise Noted)**

PARAMETERS/TEST CONDITIONS	SYMBOL	LIMITS	UNITS
Source-Source Voltage	$V_{SSS}$	30	V
Gate-Source Voltage	$V_{GSS}$	$\pm 20$	V
Continuous Source Current	$I_S$	14	A
Pulsed Source Current <sup>1</sup>	$I_{SP}$	70	
Total Dissipation	$P_T$	2.5	W
Thermal Resistance <sup>1</sup>	$R_{\theta JA}$	50	°C / W
Operating Junction & Storage Temperature Range	$T_j, T_{stg}$	-55 to 150	°C

<sup>1</sup>The value of  $R_{\theta JA}$  is measured with the device mounted on 1in<sup>2</sup> FR-4 board with 2oz. Copper, in a still air environment with  $T_A = 25^\circ\text{C}$ .

**ELECTRICAL CHARACTERISTICS ( $T_J = 25^\circ\text{C}$ , Unless Otherwise Noted)**

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
<b>STATIC</b>						
Source-Source Breakdown Voltage	$V_{(BR)SSS}$	$V_{GS} = 0\text{V}, I_S = 250\mu\text{A}$	30			V
Gate Threshold Voltage	$V_{GS(\text{th})}$	$V_{SS} = 10\text{V}, I_S = 250\mu\text{A}$	1.3	1.8	2.3	
Gate-Source Leakage	$I_{GSS}$	$V_{SS} = 0\text{V}, V_{GS} = \pm 20\text{V}$			$\pm 10$	$\mu\text{A}$
Zero Gate Voltage Source Current	$I_{SSS}$	$V_{SS} = 30\text{V}, V_{GS} = 0\text{V}$			1	$\mu\text{A}$
Source-Source On-State Resistance <sup>1</sup>	$R_{SS(ON)}$	$V_{GS} = 10\text{V}, I_S = 7\text{A}$		6.2	7.8	$\text{m}\Omega$
		$V_{GS} = 4.5\text{V}, I_S = 7\text{A}$		8.5	11	
Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{SS} = 5\text{V}, I_S = 7\text{A}$		45		S

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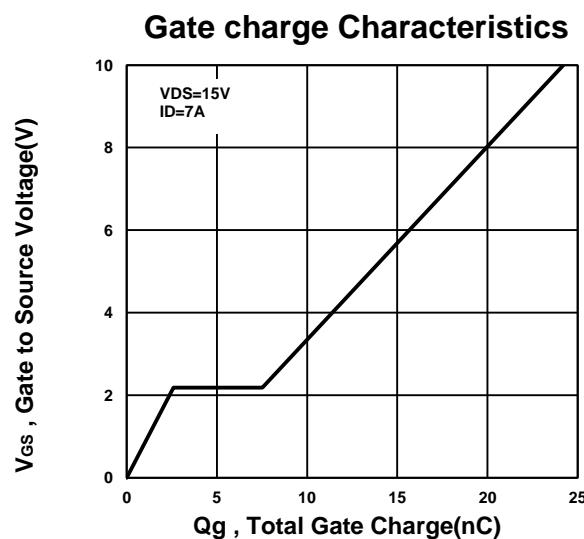
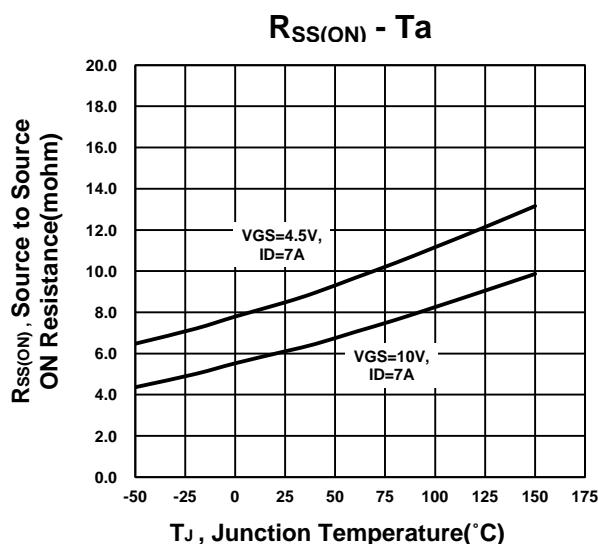
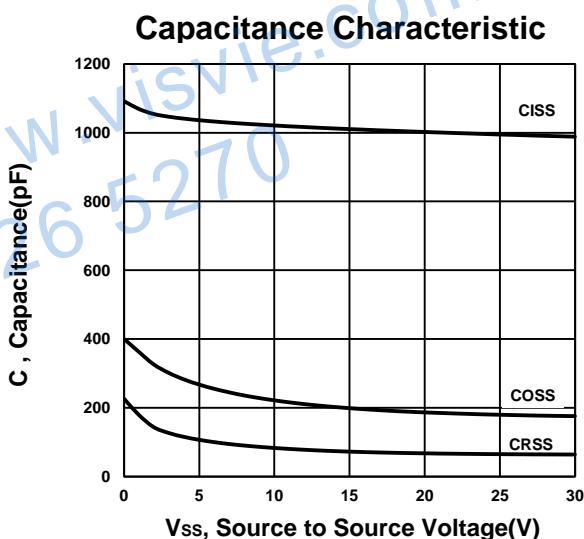
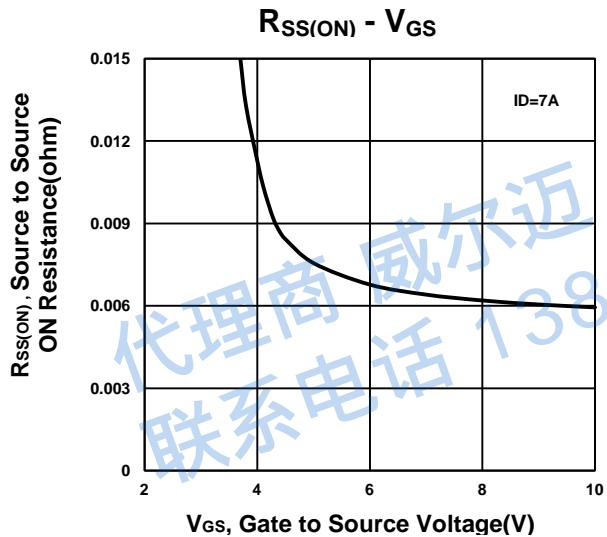
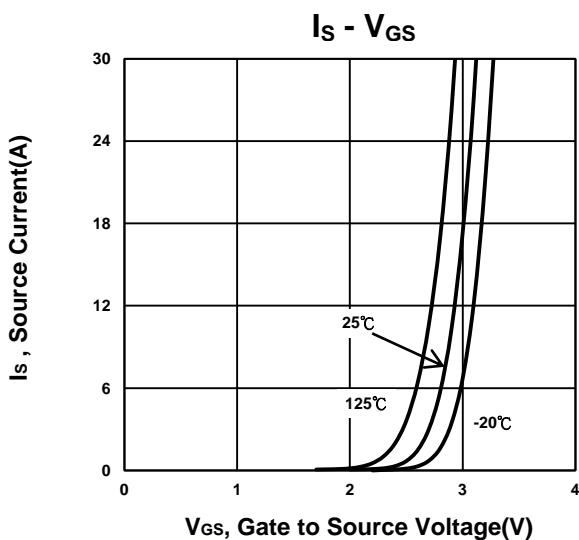
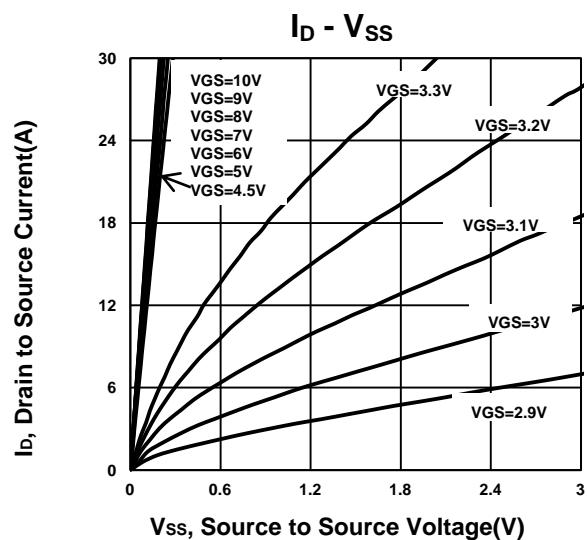
DYNAMIC						
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$		1011		pF
Output Capacitance	$C_{oss}$			198		
Reverse Transfer Capacitance	$C_{rss}$			72		
Total Gate Charge <sup>2</sup>	$Q_g$	$V_{SS} = 15V, V_{GS} = 10V$ $I_S = 7A$		24		nC
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$			0.43		uS
Rise Time <sup>2</sup>	$t_r$			0.61		
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$			1.33		
Fall Time <sup>2</sup>	$t_f$			0.85		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ( $T_J = 25^\circ C$ )						
Forward Source-Source Voltage <sup>1</sup>	$V_F$	$I_S = 7A, V_{GS} = 0V$		0.72	1.2	V

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

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