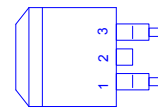
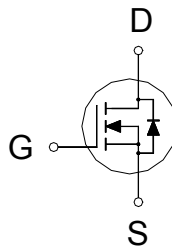




**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
100	26mΩ	40A



- 1. GATE
- 2. DRAIN
- 3. SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Gate-Source Voltage		$V_{GS}$	±20	V
Continuous Drain Current <sup>1</sup>	$T_C = 25\text{ °C}$	$I_D$	40	A
	$T_C = 100\text{ °C}$		31	
Pulsed Drain Current <sup>2</sup>		$I_{DM}$	120	
Avalanche Current		$I_{AS}$	54	
Avalanche Energy	L = 0.1mH	$E_{AS}$	145	mJ
Power Dissipation	$T_C = 25\text{ °C}$	$P_D$	89	W
	$T_C = 100\text{ °C}$		57	
Operating Junction & Storage Temperature Range		$T_j, T_{stg}$	-55 to 150	°C

**THERMAL RESISTANCE RATING**

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		1.4	°C / W
Junction-to-Ambient	$R_{\theta JA}$		50	

<sup>1</sup>limited by maximum junction temperature.

<sup>2</sup>limited by package.

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.5	2.3	4	V
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 20V$			±250	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 80V, V_{GS} = 0V$			1	μA
		$V_{DS} = 80V, V_{GS} = 0V, T_J = 125\text{ °C}$			10	
On-State Drain Current <sup>1</sup>	$I_{D(ON)}$	$V_{DS} = 10V, V_{GS} = 10V$	120			A
Drain-Source On-State Resistance <sup>1</sup>	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 27.5A$		22	26	mΩ
Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = 10V, I_D = 27.5A$		53		S

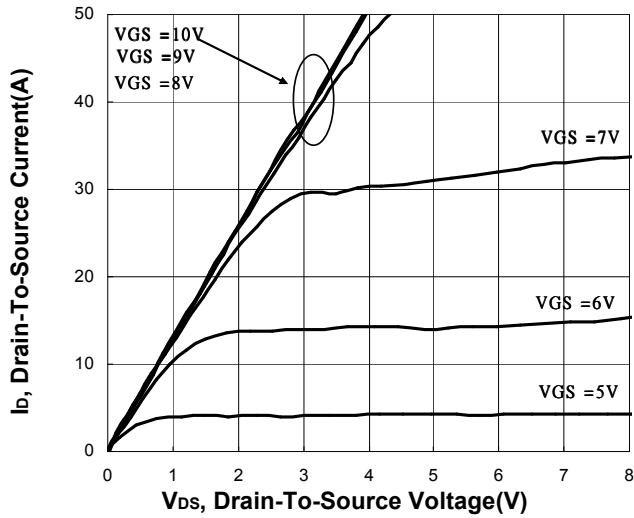
DYNAMIC						
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$		5020		pF
Output Capacitance	$C_{oss}$			311		
Reverse Transfer Capacitance	$C_{rss}$			198		
Total Gate Charge <sup>2</sup>	$Q_g$	$V_{DS} = 50V, V_{GS} = 10V,$ $I_D = 27.5A$		82.9		nC
Gate-Source Charge <sup>2</sup>	$Q_{gs}$			26.9		
Gate-Drain Charge <sup>2</sup>	$Q_{gd}$			26.3		
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$	$V_{DD} = 50V,$ $I_D \cong 27.5A, V_{GS} = 10V, R_{GEN} = 6\Omega$		38		nS
Rise Time <sup>2</sup>	$t_r$			70		
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$			94		
Fall Time <sup>2</sup>	$t_f$			38		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ( $T_J = 25^\circ C$ )						
Continuous Current	$I_S$			50		A
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = 27.5A, V_{GS} = 0V$		1.1		V
Reverse Recovery Time	$t_{rr}$	$I_F = 27.5A, di_F/dt = 100A / \mu S$		120		nS
Reverse Recovery Charge	$Q_{rr}$			465		nC

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

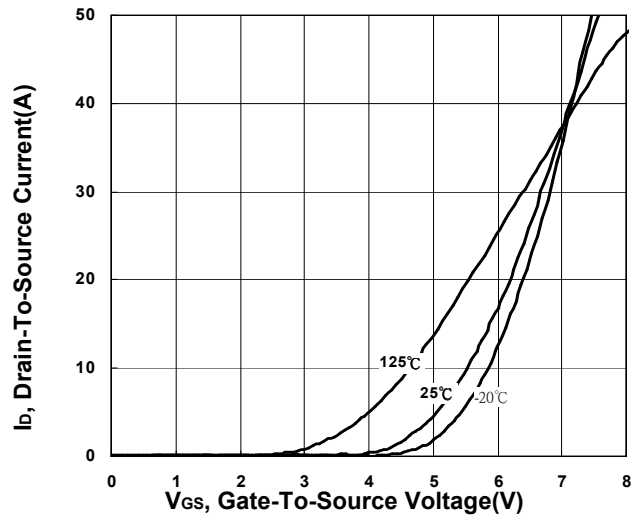
<sup>2</sup>Independent of operating temperature.

**REMARK: THE PRODUCT MARKED WITH "P2610ASG", DATE CODE or LOT #**

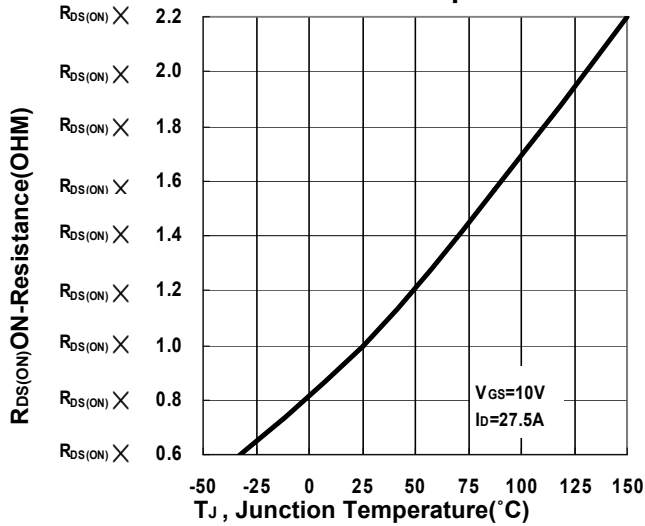
**Output Characteristics**



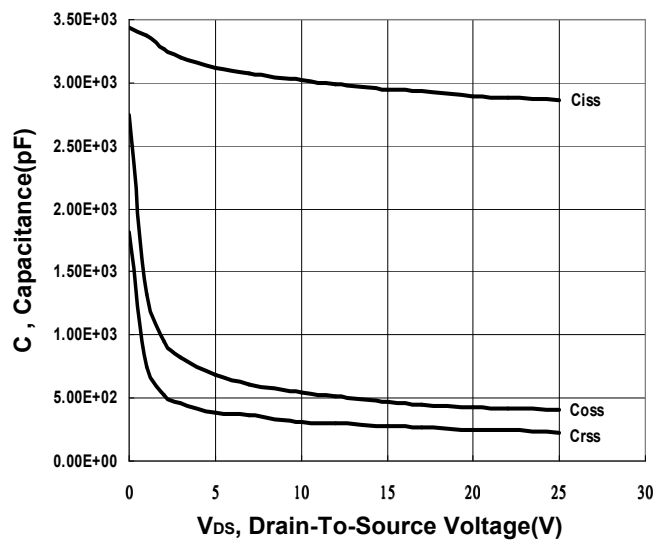
**Transfer Characteristics**



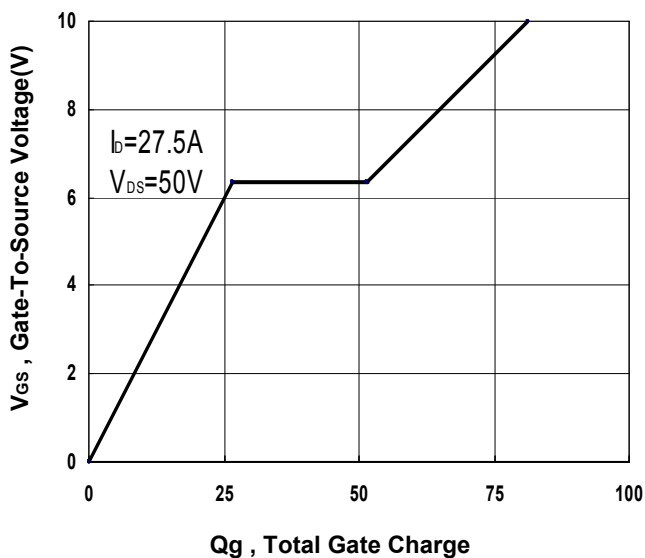
**On-Resistance VS Temperature**



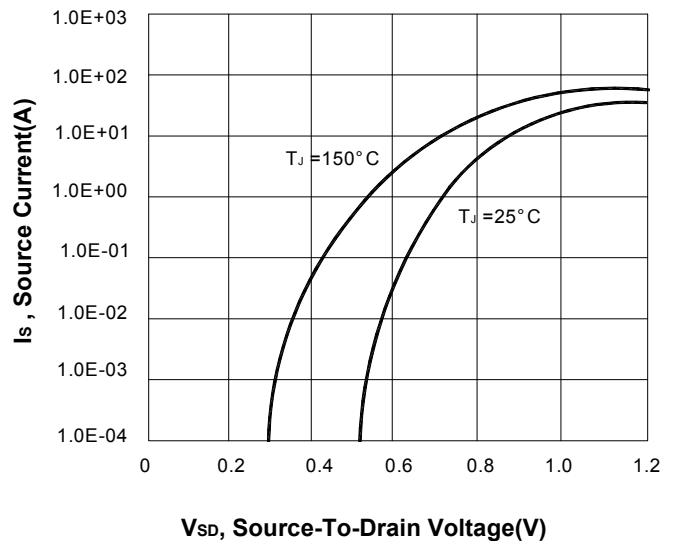
**Capacitance Characteristic**



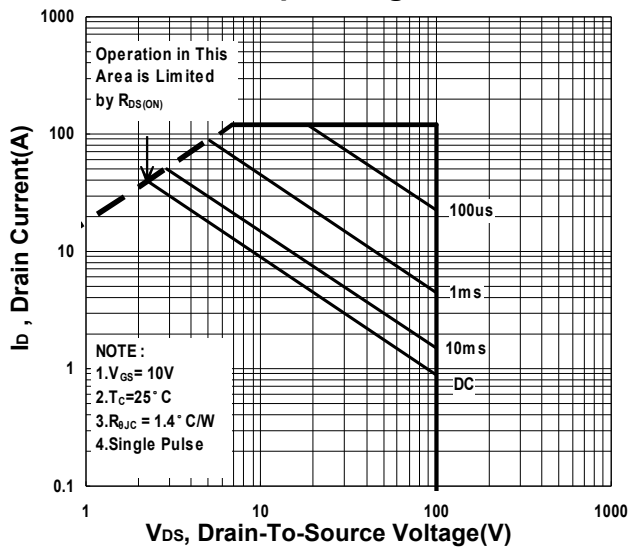
**Gate charge Characteristics**



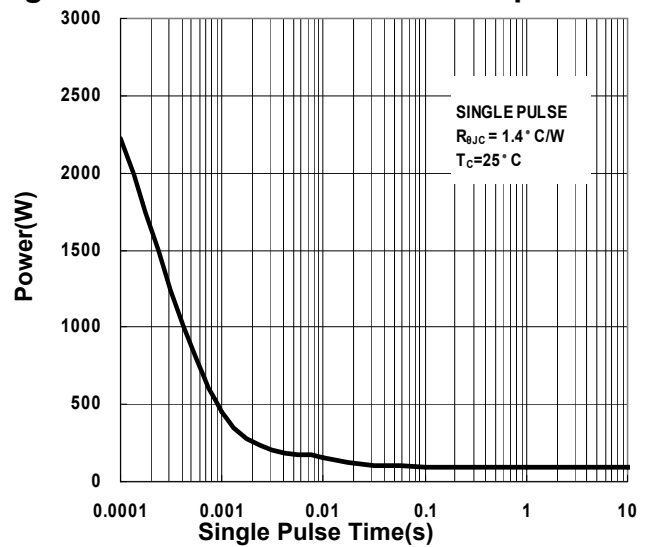
**Source-Drain Diode Forward Voltage**



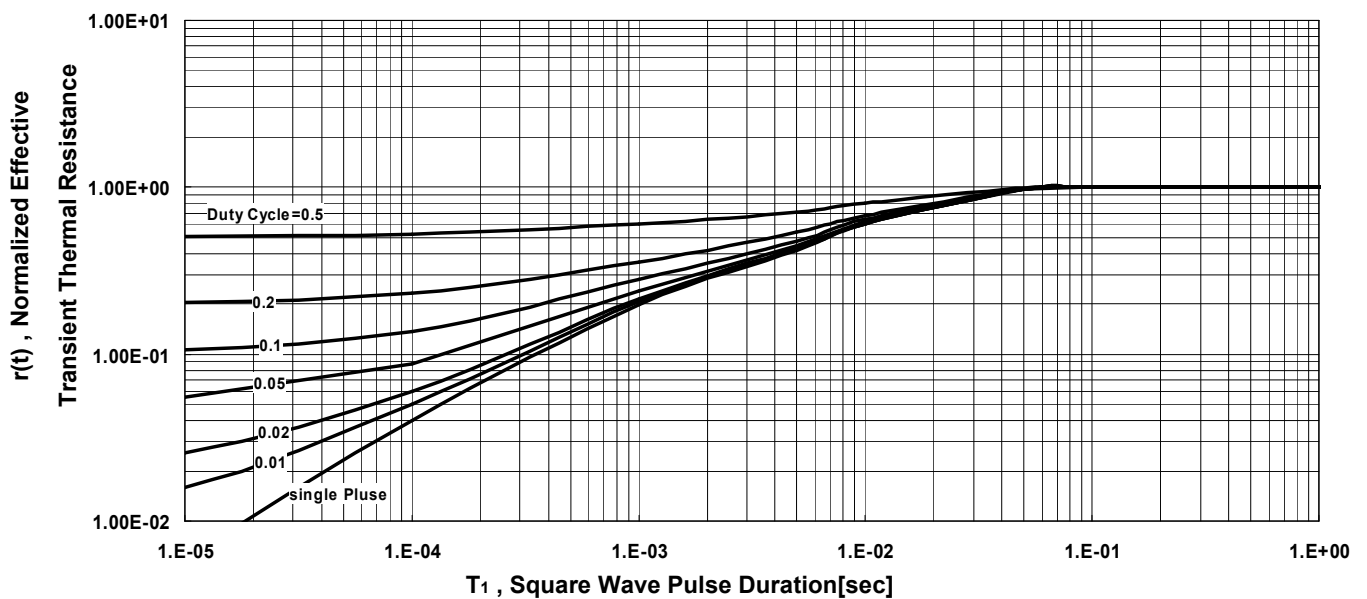
**Safe Operating Area**



**Single Pulse Maximum Power Dissipation**



**Transient Thermal Response Curve**



**TO-263 (D<sup>2</sup>PAK) MECHANICAL DATA**

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	14.6	15.1	15.8	H	1.17	1.27	1.4
B	4.4	4.57	4.8	I	9.8	10.16	10.4
C	1.22		1.45	J			
D	2.59	2.69	2.79	K		1.5	1.75
E	0.36		0.5	L	0.76		1.00
F	0	0.1	0.3	M		5.08	
G	8.6	9.15	9.25	N			

