UNIKC Semiconductor

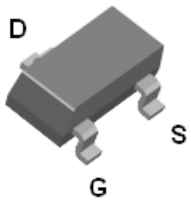
RoHS Compliant

PA203EMG

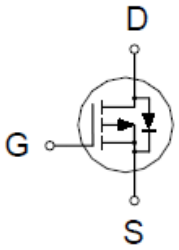
P-Channel Logic Level Enhancement Mode MOSFET

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
-30V	120mΩ @V_{GS} = -10V	-2.6A



SOT-23



ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	±25	
Continuous Drain Current	T_A = 25 °C	I_D	-2.6	A
	T_A = 70 °C		-2.1	
Pulsed Drain Current[1]		I_{DM}	-10	
Power Dissipation	T_A = 25 °C	P_D	1.25	W
	T_A = 70 °C		0.8	
Operating Junction & Storage Temperature Range		T_J, T_{STG}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		100	°C / W
Junction-to-Case	$R_{\theta JC}$		80	

[1]Pulse width limited by maximum junction temperature.

UNIKC Semiconductor

RoHS Compliant

PA203EMG

P-Channel Logic Level Enhancement Mode MOSFET

ELECTRICAL CHARACTERISTICS (T_A = 25 °C, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = -250μA	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250μA	-1	-1.5	-3	
Gate-Body Leakage	I_{GSS}	V_{DS} = 0V, V_{GS} = ±25V			±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 = 125 °C			-10	
On-State Drain Current[1]	$I_{D(ON)}$	V_{DS} = -5V, V_{GS} = -10V	-2.6			A
Drain-Source On-State Resistance[1]	$R_{DS(ON)}$	V_{GS} = -4.5V, I_D = -1.5A		180	200	mΩ
		V_{GS} = -10V, I_D = -2.6A		100	120	
Forward Transconductance[1]	g_{fs}	V_{DS} = -5V, I_D = -2.6A		5		S
DYNAMIC						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = -15V, f = 1MHz		250		pF
Output Capacitance	C_{oss}			65		
Reverse Transfer Capacitance	C_{rss}			45		
Gate Resistance	R_g	V_{GS} = 0V, V_{DS} = 0V, f = 1MHz		4.7		Ω
Total Gate Charge[2]	Q_g	V_{DS} = 0.5$V_{(BR)DSS}$, V_{GS} = -10V, I_D = -2.6A		5.3		nC
Gate-Source Charge[2]	Q_{gs}			1		
Gate-Drain Charge[2]	Q_{gd}			1.3		
Turn-On Delay Time[2]	$t_{d(on)}$	V_{DS} = -15V,I_D ≅ -1A, V_{GS} = -10V, R_{GS} = 6Ω		13		nS
Rise Time[2]	t_r			36		
Turn-Off Delay Time[2]	$t_{d(off)}$			42		
Fall Time[2]	t_f			34		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICE (T_A = 25 ˚C)						
Continuous Current	I_S				-1.25	A
Forward Voltage[1]	V_{SD}	I_F = 1A, V_{GS} = 0V			-1	V
Reverse Recovery Time	t_{rr}			25		nS
Reverse Recovery Change	Q_{rr}			15		nC

[1]Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

[2]Independent of operating temperature.

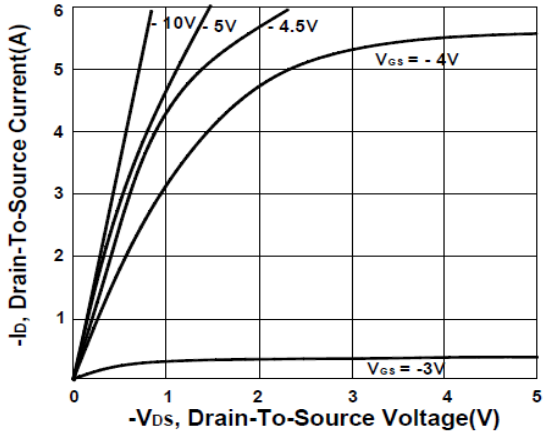
UNIKC Semiconductor

RoHS Compliant

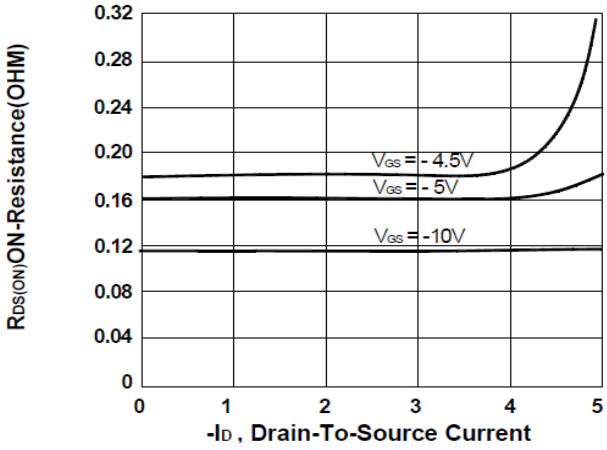
PA203EMG

P-Channel Logic Level Enhancement Mode MOSFET

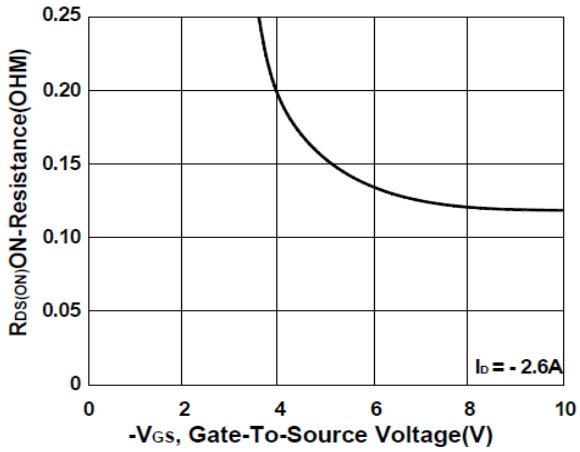
Output Characteristics



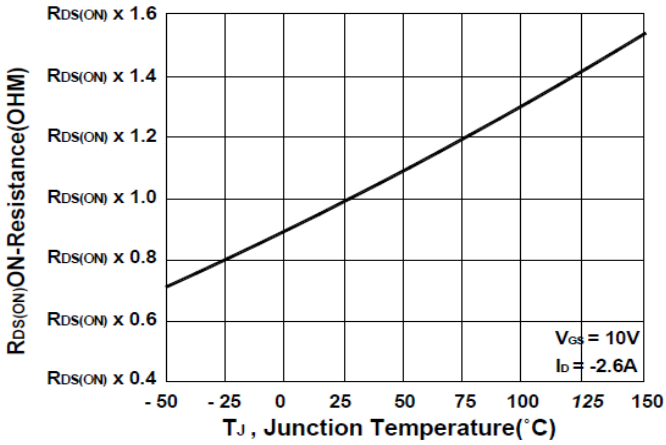
On-Resistance VS Drain Current



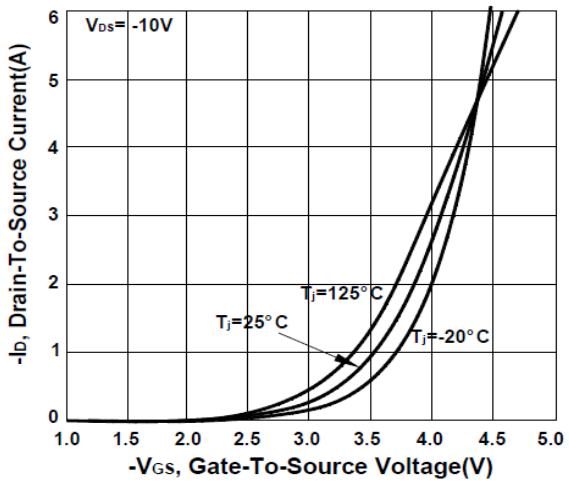
On-Resistance VS Gate-To-Source



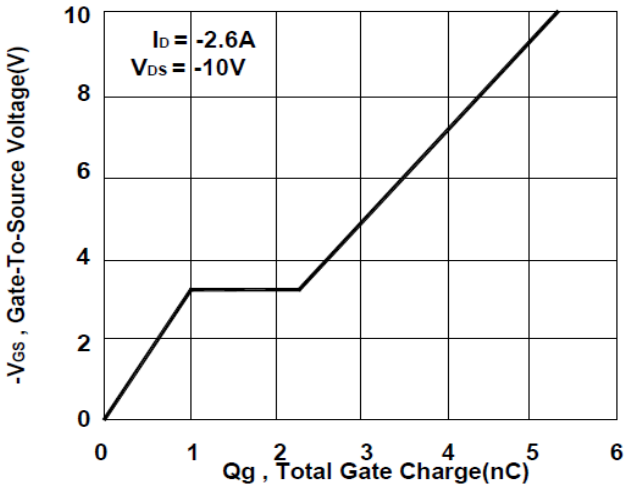
On-Resistance VS Temperature



Transfer Characteristics



Gate charge Characteristics



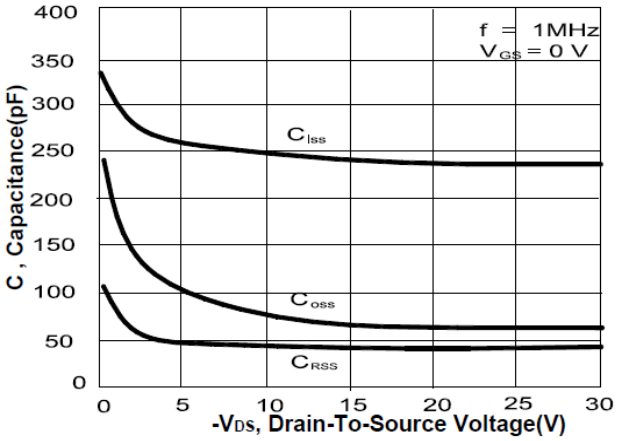
UNIKC Semiconductor

RoHS Compliant

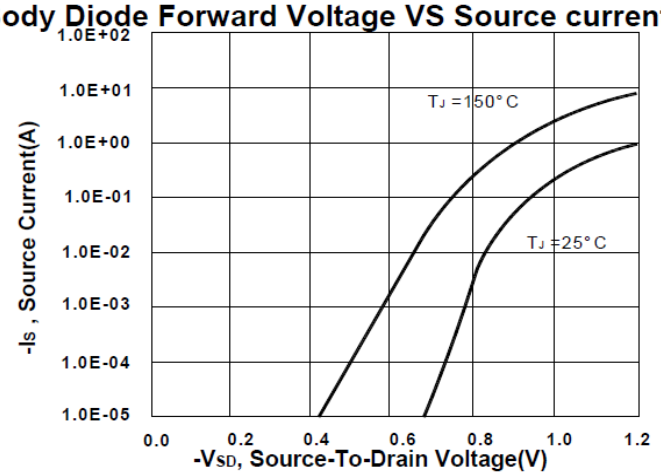
PA203EMG

P-Channel Logic Level Enhancement Mode MOSFET

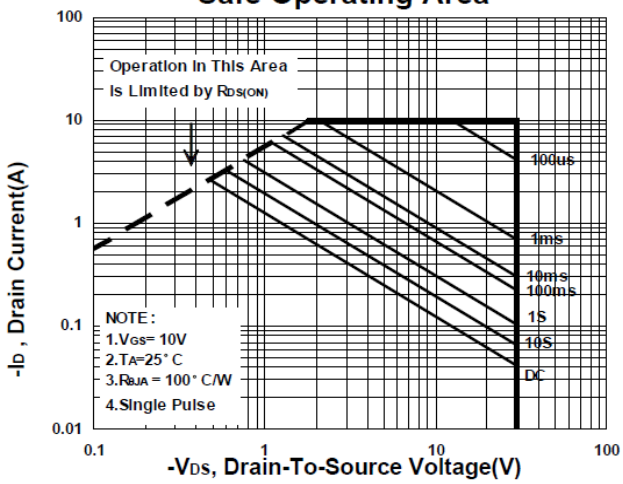
Capacitance Characteristic



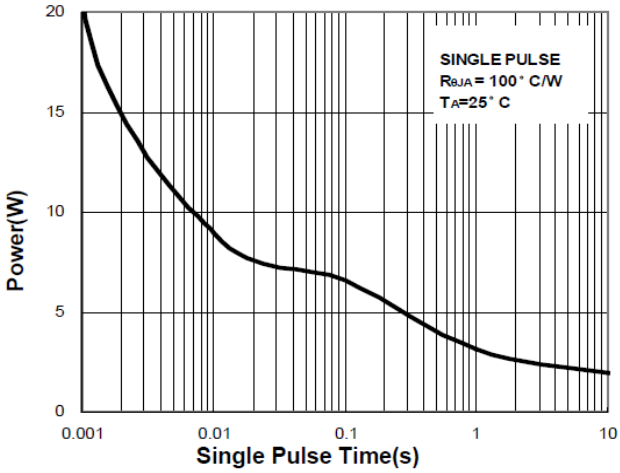
Body Diode Forward Voltage VS Source current



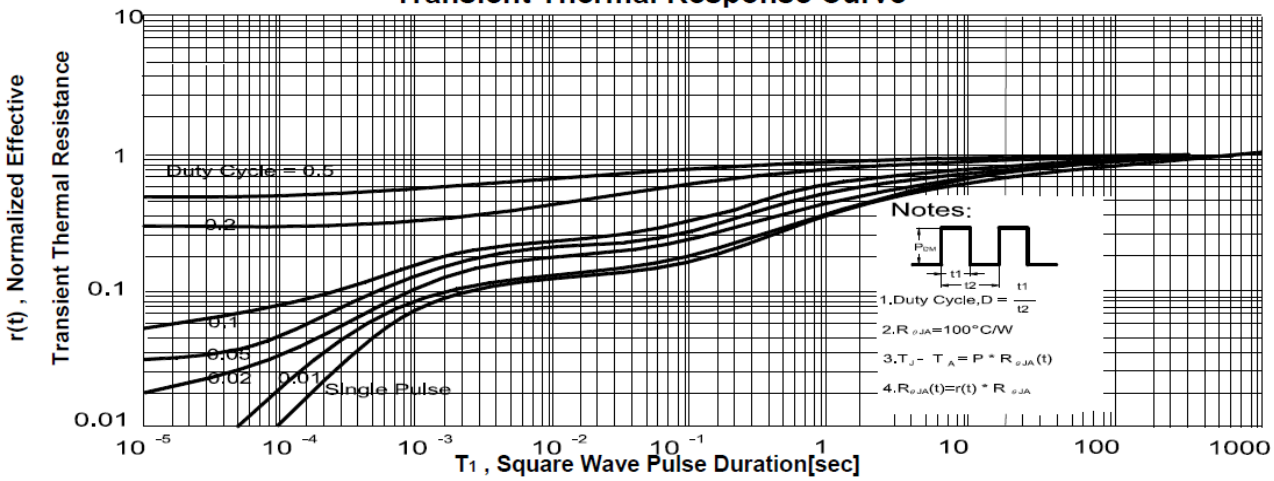
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



UNIKC Semiconductor

RoHS Compliant

PA203EMG

P-Channel Logic Level Enhancement Mode MOSFET

Package Dimension

SOT-23 MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A		1.05		H	0.1		0.2
B	2.4		3	I	0.3		0.6
C	1.4		1.73				
D	2.7		3.1				
E	1		1.31				
F	0		0.15				
G	0.3		0.5