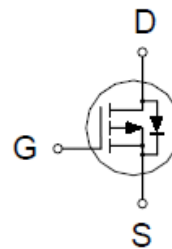
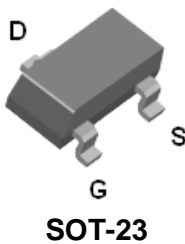


PA102FMG

P-Channel Enhancement Mode MOSFET

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
-20V	118m Ω @ $V_{GS} = -4.5V$	-3A



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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Voltage		V_{GS}	± 12	
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	I_D	-3	A
	$T_A = 70\text{ }^\circ\text{C}$		-2.1	
Pulsed Drain Current ¹		I_{DM}	-10	
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	P_D	1.38	W
	$T_A = 70\text{ }^\circ\text{C}$		0.88	
Operating Junction & Storage Temperature Range		T_J, T_{STG}	-55 to 150	$^\circ\text{C}$

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		90	$^\circ\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

²Duty cycle $\leq 1\%$

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

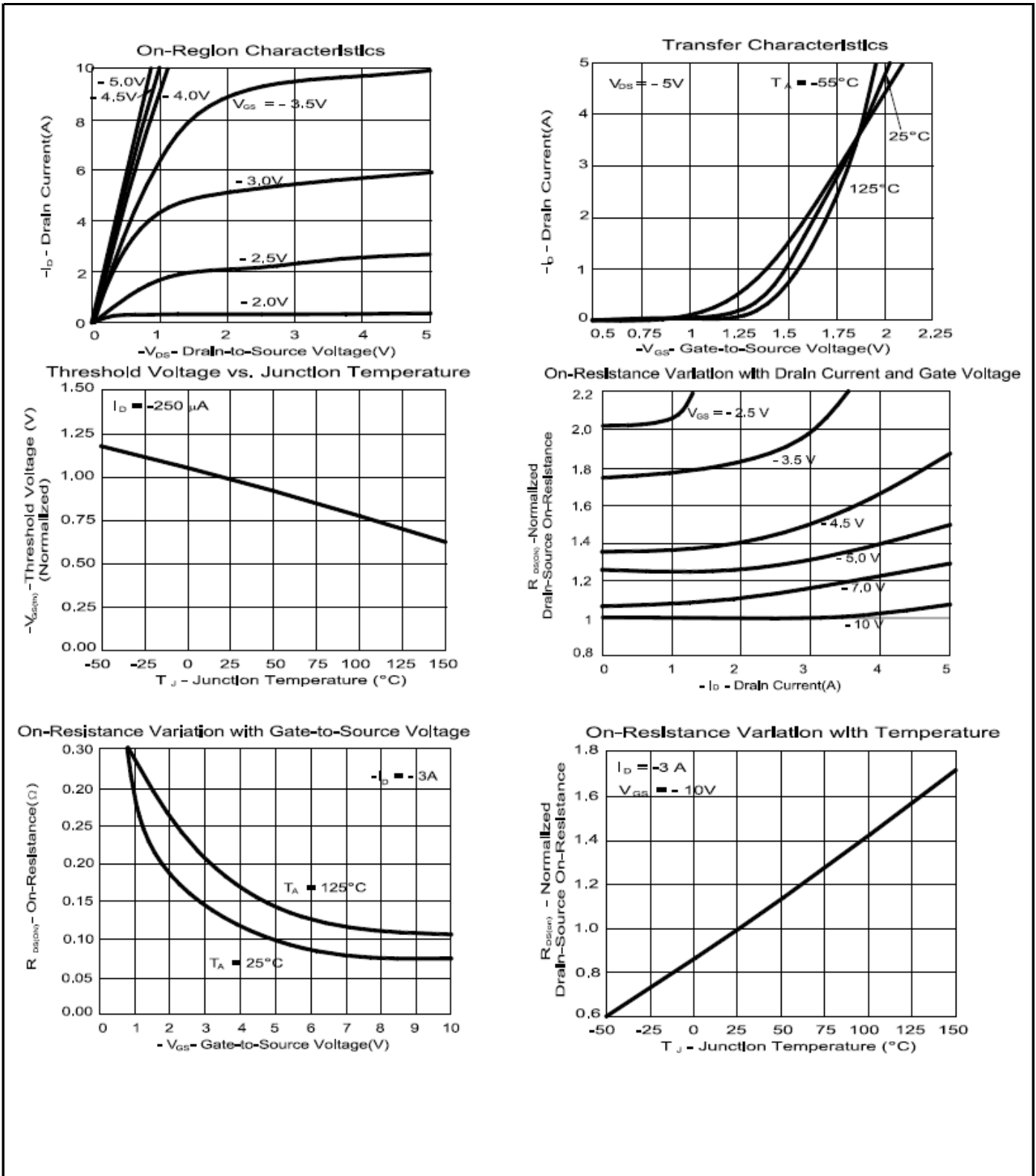
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-20			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-0.45	-0.8	-1.2	V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±12V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -16V, V _{GS} = 0V			-1	μA
		V _{DS} = -16V, V _{GS} = 0V, T _J = 125 °C			-10	
On-State Drain Current ¹	I _{D(ON)}	V _{DS} = -5V, V _{GS} = -4.5V	-10			A
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = -2.5V, I _D = -1A		150	215	mΩ
		V _{GS} = -4.5V, I _D = -2A		98	118	
		V _{GS} = -10V, I _D = -2A		72	85	
Forward Transconductance ¹	g _{fs}	V _{DS} = -5V, I _D = -2A		16		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = -6V, f = 1MHz		430		pF
Output Capacitance	C _{oss}			235		
Reverse Transfer Capacitance	C _{rss}			95		
Total Gate Charge ²	Q _g	V _{DS} = 0.5V _{(BR)DSS} , V _{GS} = -4.5V, I _D = -2A		7.6	10	nC
Gate-Source Charge ²	Q _{gs}			3.2		
Gate-Drain Charge ²	Q _{gd}			2		
Turn-On Delay Time ²	t _{d(on)}	V _{DD} = -10V I _D ≅ -1A, V _{GS} = -4.5V, R _G = 6Ω		11	22	nS
Rise Time ²	t _r			32	55	
Turn-Off Delay Time ²	t _{d(off)}			38	68	
Fall Time ²	t _f			32	55	
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTIC (T_J = 25 °C)						
Continuous Current	I _S				-1.6	A
Forward Voltage ¹	V _{SD}	I _F = -2A, V _{GS} = 0V			-1.2	V

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

²Independent of operating temperature.

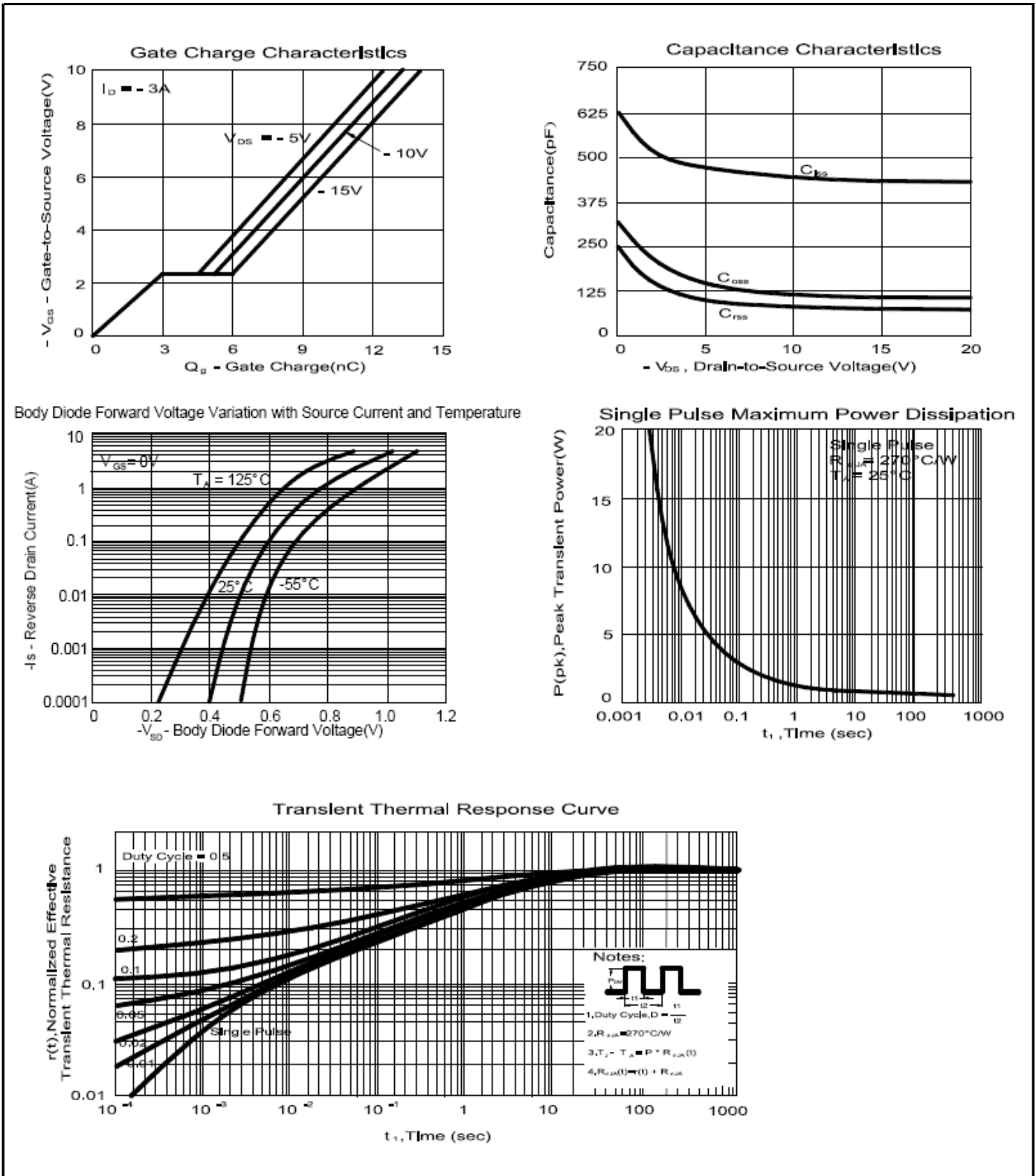
PA102FMG

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Package Dimension

SOT-23-3 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				

