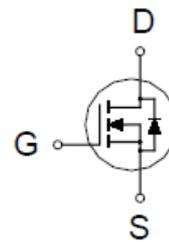
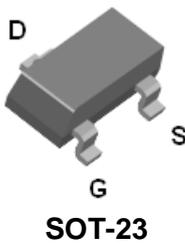


P2202CM

N-Channel Enhancement Mode MOSFET

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
20V	24m Ω @ $V_{GS} = 4.5V$	6A



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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Gate-Source Voltage		V_{GS}	± 8	V
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	I_D	6	A
	$T_A = 70\text{ }^\circ\text{C}$		5	
Pulsed Drain Current ¹		I_{DM}	25	
Avalanche Current		I_{AS}	21	
Avalanche Energy	L=0.1mH	E_{AS}	22	mJ
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	P_D	1	W
	$T_A = 70\text{ }^\circ\text{C}$		0.6	
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	$R_{\theta JA}$		130	$^\circ\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

P2202CM

N-Channel Enhancement Mode MOSFET

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	0.5	0.8	1	V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±8V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 16V, V _{GS} = 0V			1	μA
		V _{DS} = 10V, V _{GS} = 0V, T _J = 70 °C			10	
On-State Drain Current ¹	I _{D(ON)}	V _{DS} = 10V, V _{GS} = 4.5V	30			A
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 1.8V, I _D = 4A		29	50	mΩ
		V _{GS} = 2.5V, I _D = 5A		21	32	
		V _{GS} = 4.5V, I _D = 6A		18	24	
Forward Transconductance ¹	g _{fs}	V _{DS} = 5V, I _D = 6A		9		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 10V, f = 1MHz		1030		pF
Output Capacitance	C _{oss}			176		
Reverse Transfer Capacitance	C _{rss}			126		
Total Gate Charge ²	Q _g	V _{DS} = 0.5V _{(BR)DSS} , V _{GS} = 4.5V, I _D = 6A		13.2		nC
Gate-Source Charge ²	Q _{gs}			2		
Gate-Drain Charge ²	Q _{gd}			4		
Turn-On Delay Time ²	t _{d(on)}	V _{DS} = 10V I _D ≅ 6A, V _{GS} = 4.5V, R _G = 6Ω		7		nS
Rise Time ²	t _r			13		
Turn-Off Delay Time ²	t _{d(off)}			52		
Fall Time ²	t _f			16		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTIC (T_J = 25 °C)						
Continuous Current	I _S				1.4	A
Forward Voltage ¹	V _{SD}	I _F = 6A, V _{GS} = 0V			1	V
Reverse Recovery Time	t _{rr}	I _F = 6A, dI _F /dt=100A/μS		14.1		nS
Reverse Recovery Charge	Q _{rr}				4	

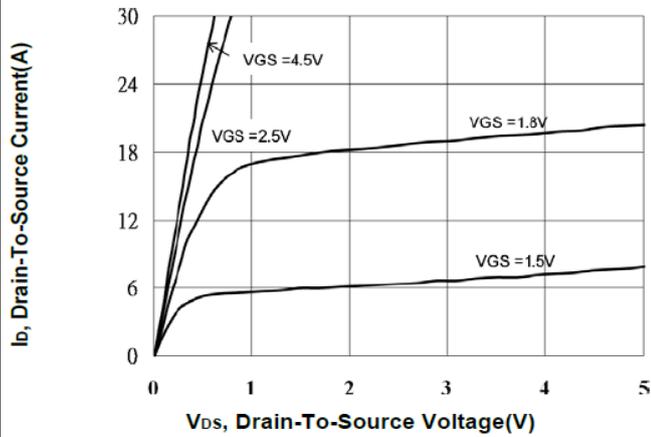
¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

²Independent of operating temperature.

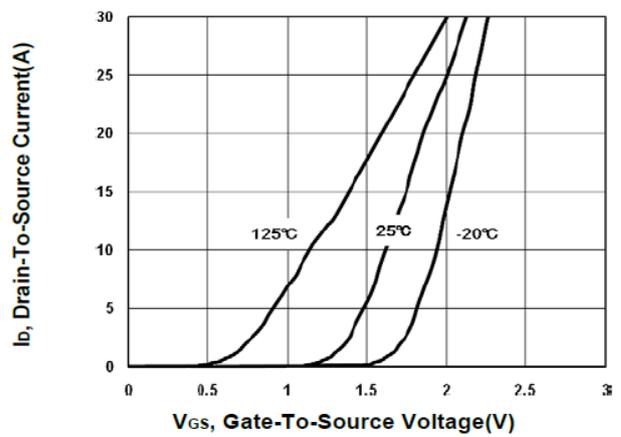
P2202CM

N-Channel Enhancement Mode MOSFET

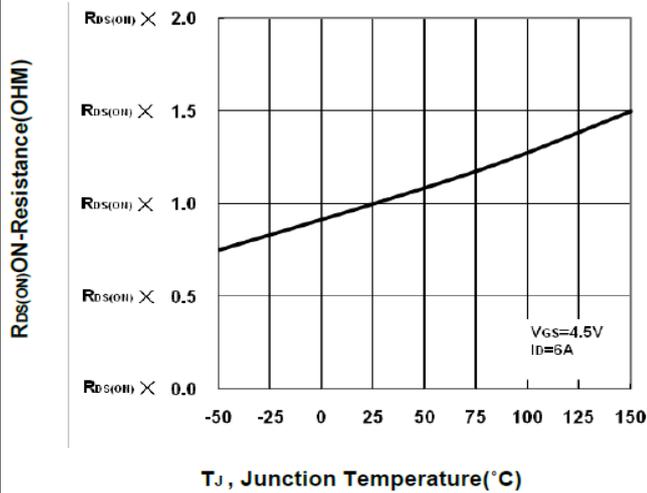
Output Characteristics



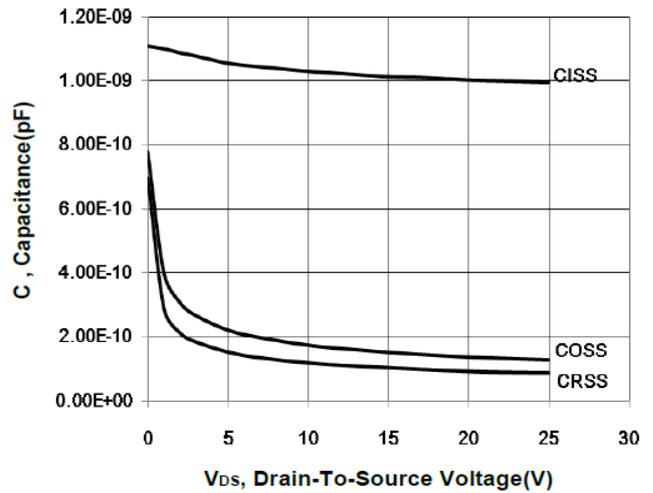
Transfer Characteristics



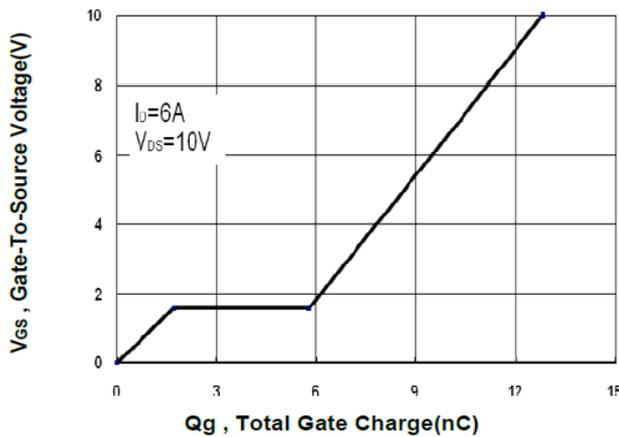
On-Resistance VS Temperature



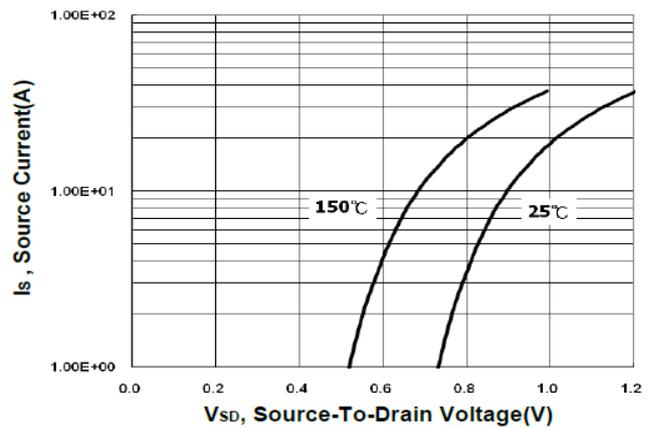
Capacitance Characteristic



Gate charge Characteristics



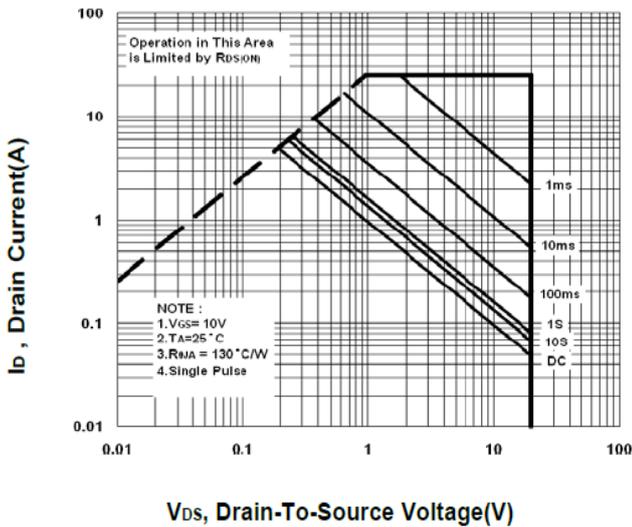
Source-Drain Diode Forward Voltage



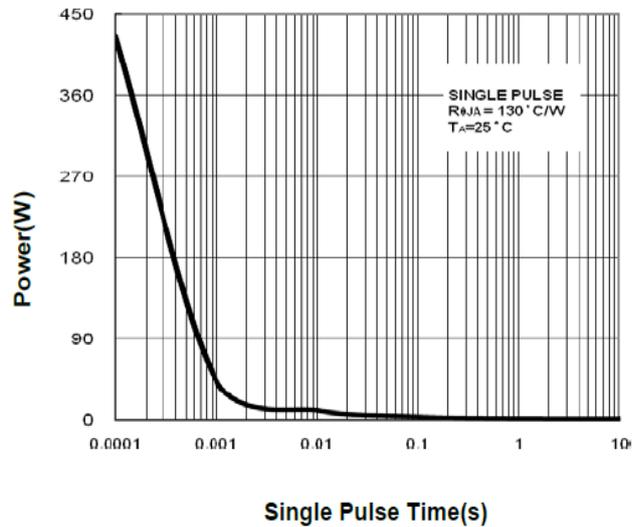
P2202CM

N-Channel Enhancement Mode MOSFET

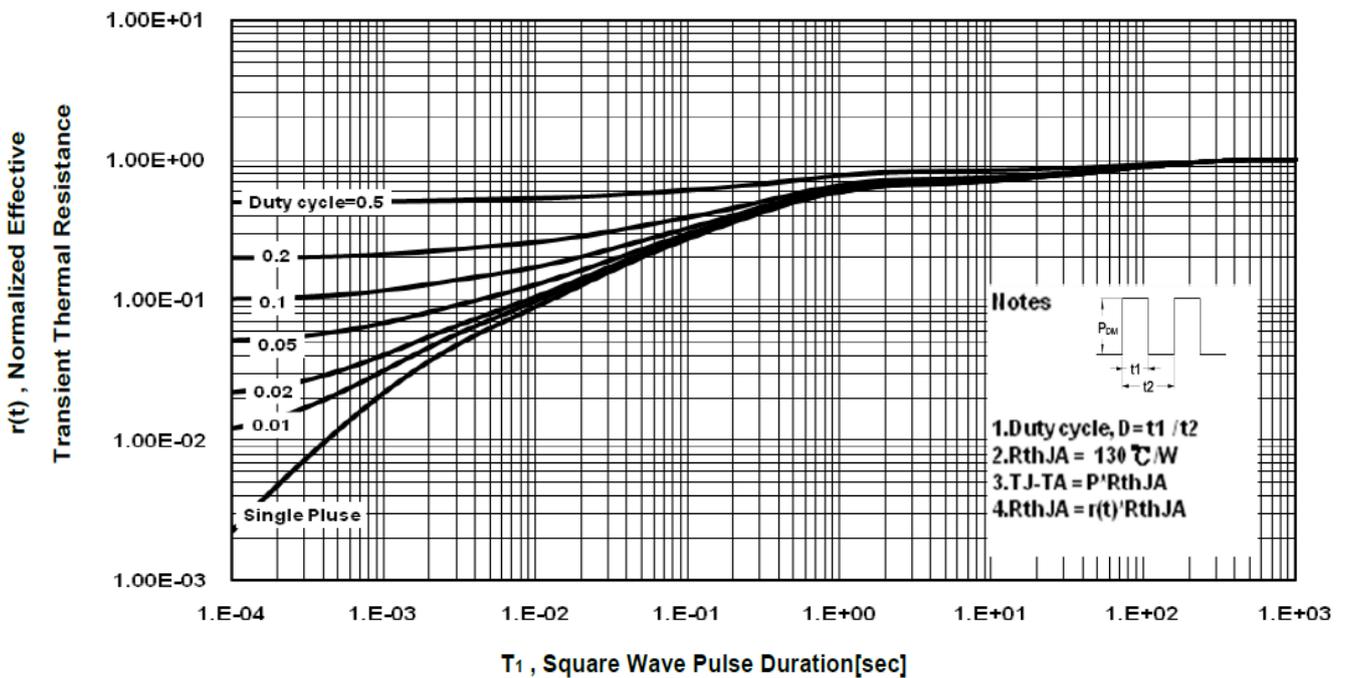
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



P2202CM

N-Channel Enhancement Mode MOSFET

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				

