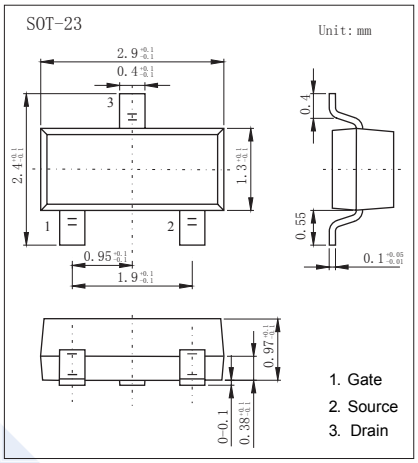
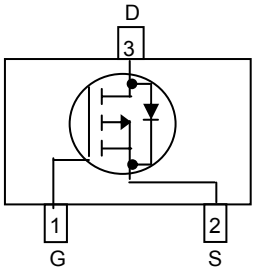
P-Channel MOSFET

WPM2015 (KPM2015)



■ Features

- $V_{DS\ (V)}$ =-20V
- I_D =-2.4 A
- $R_{DS(ON)}$ < 110mΩ (V_{GS} =-4.5V)
- $R_{DS(ON)}$ < 150mΩ (V_{GS} =-2.5V)
- Supper high density cell design



■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	10 S	Steady State	Unit
Drain-Source Voltage		V_{DS}	-20		V
Gate-Source Voltage		V_{GS}	±8		
Continuous Drain Current (Note.1)	Ta=25°C	I_D	-2.4	-2.2	A
	Ta=70°C		-1.9	-1.7	
Power Dissipation (Note.1)	Ta=25°C	P_D	0.9	0.8	W
	Ta=70°C		0.5	0.5	
Continuous Drain Current (Note.2)	Ta=25°C	I_D	-2.2	-2	A
	Ta=70°C		-1.7	-1.6	
Power Dissipation (Note.2)	Ta=25°C	P_D	0.7	0.6	W
	Ta=70°C		0.5	0.4	
Pulsed Drain Current (Note.3)		I_{DM}	-10		A
Thermal Resistance.Junction- to-Ambient	(Note.1)	R_{thJA}	135	155	℃/W
	(Note.2)		160	190	
Thermal Resistance.Junction- to-Case		R_{thJC}	—	75	
Junction Temperature		T_J	150		℃
Lead Temperature		T_L	260		
Junction Storage Temperature Range		T_{stg}	-55 to 150		

Note.1: Surface mounted on FR-4 Board using 1 square inch pad size, 1oz copper

Note.2: Surface mounted on FR-4 board using minimum pad size, 1oz copper

Note.3: Pulse width<380μs, Duty Cycle<2%

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=-250μA, V_{GS}=0V	-20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-16V, V_{GS}=0V			-1	uA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}=±8V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250μA	-0.4		-0.81	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-4.5V, I_D=-2.7A			110	mΩ
		V_{GS}=-2.5V, I_D=-2.2A			150	
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=-10V, f=1MHz		534		pF
Output Capacitance	C_{oss}			62		
Reverse Transfer Capacitance	C_{rss}			54		
Total Gate Charge	Q_g	V_{GS}=-4.5V, V_{DS}=-10V, I_D=-2.7A		7.3		nC
Threshold Gate Charge	$Q_{g(th)}$			0.5		
Gate Source Charge	Q_{gs}			1.25		
Gate Drain Charge	Q_{gd}			1.15		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=-4.5V, V_{DS}=-10V, I_D=-1.2A, R_G=6Ω		8		ns
Turn-On Rise Time	t_r			6.4		
Turn-Off DelayTime	$t_{d(off)}$			41		
Turn-Off Fall Time	t_f			7		
Maximum Body-Diode Continuous Current	I_S				-0.9	A
Diode Forward Voltage	V_{SD}	I_S=-0.9A,V_{GS}=0V			-1.5	V

■ Marking

Marking	A1SHB

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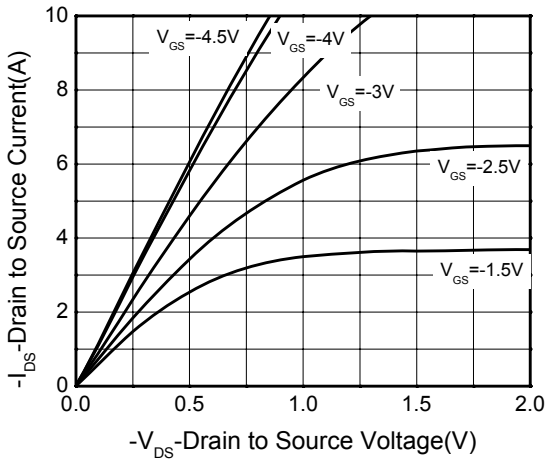
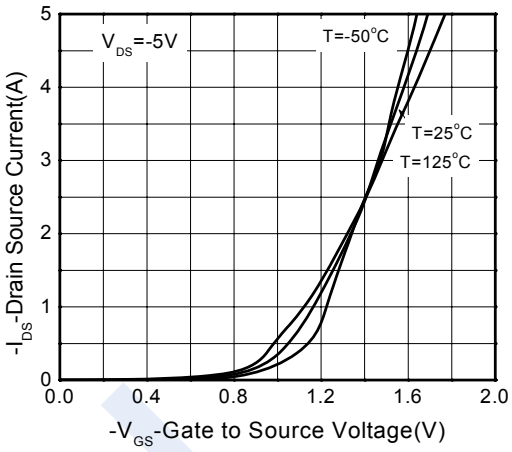
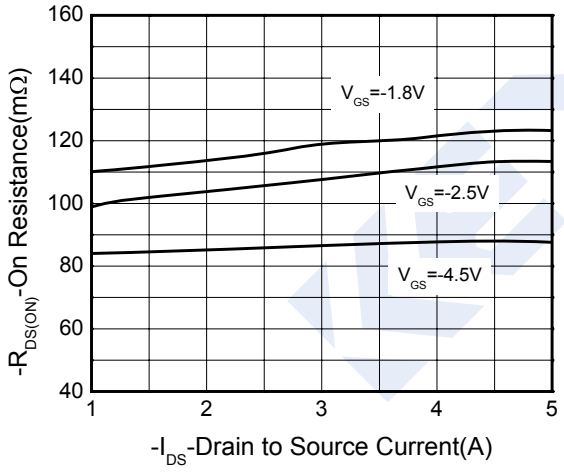
■ Typical Characterisitics



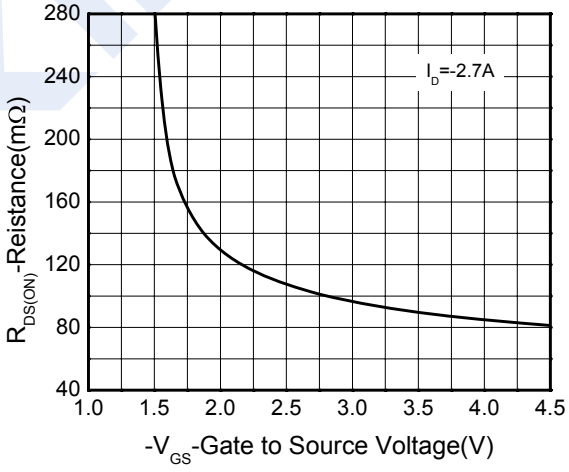
Output characteristics



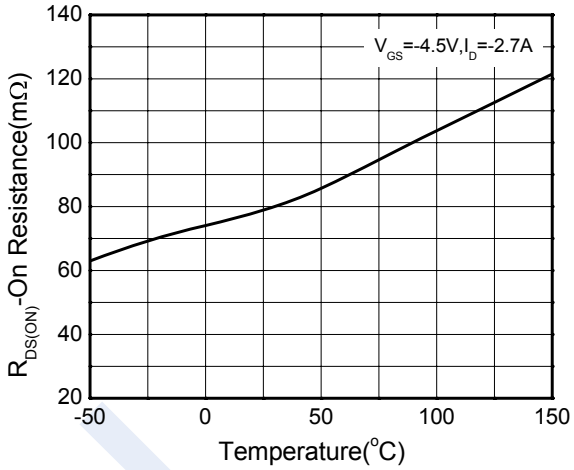
Transfer characteristics



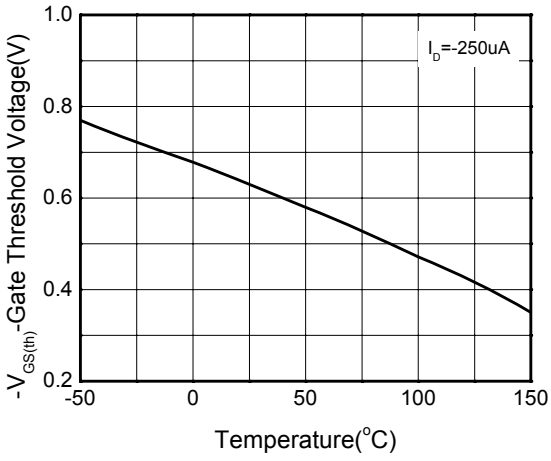
On-Resistance vs. Drain current



On-Resistance vs. Gate-to-Source voltage



On-Resistance vs. Junction temperature

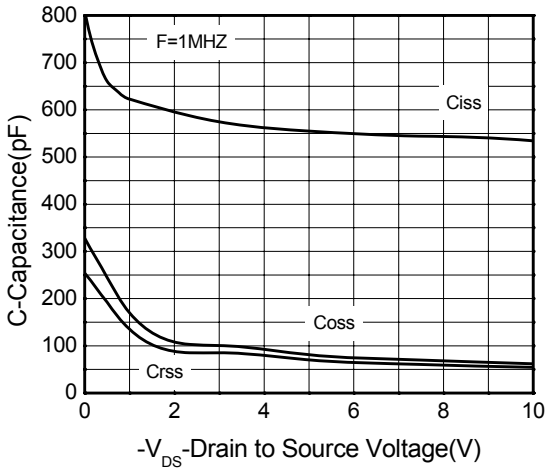


Threshold voltage vs. Temperature

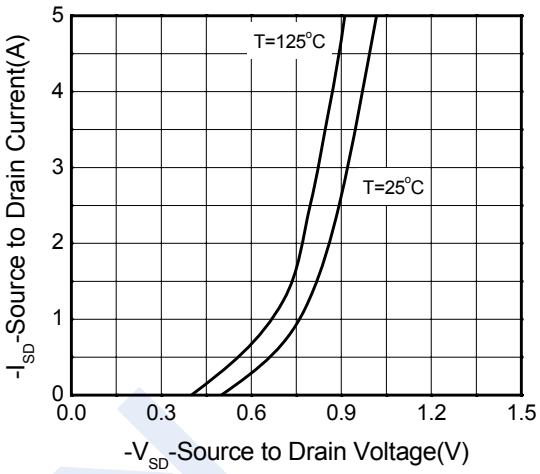
P-Channel MOSFET

WPM2015 (KPM2015)

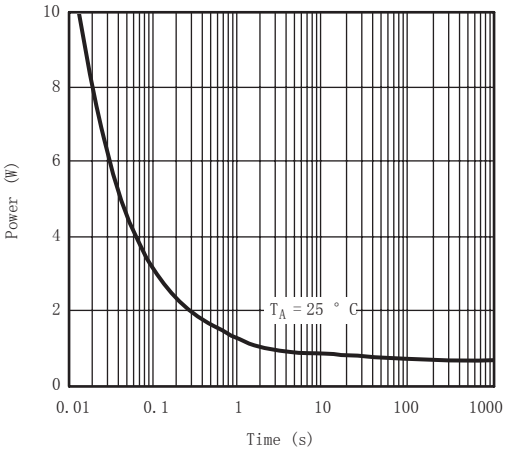
■ Typical Characterisitics



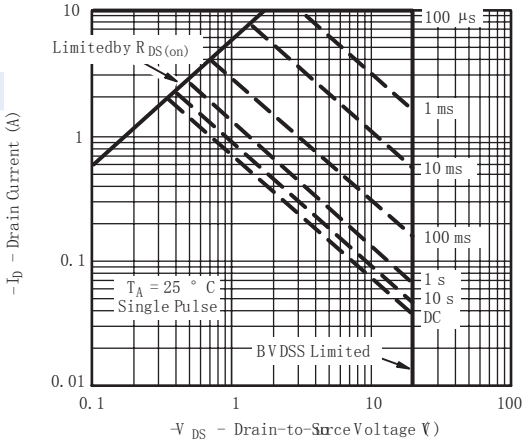
Capacitance



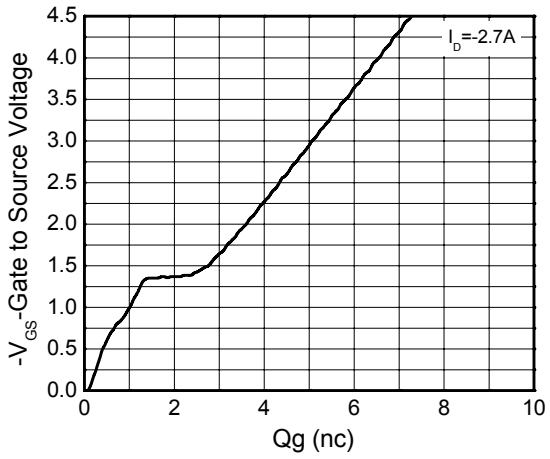
Body diode forward voltage



Single pulse power



Safe operating power



Gate Charge Characteristics

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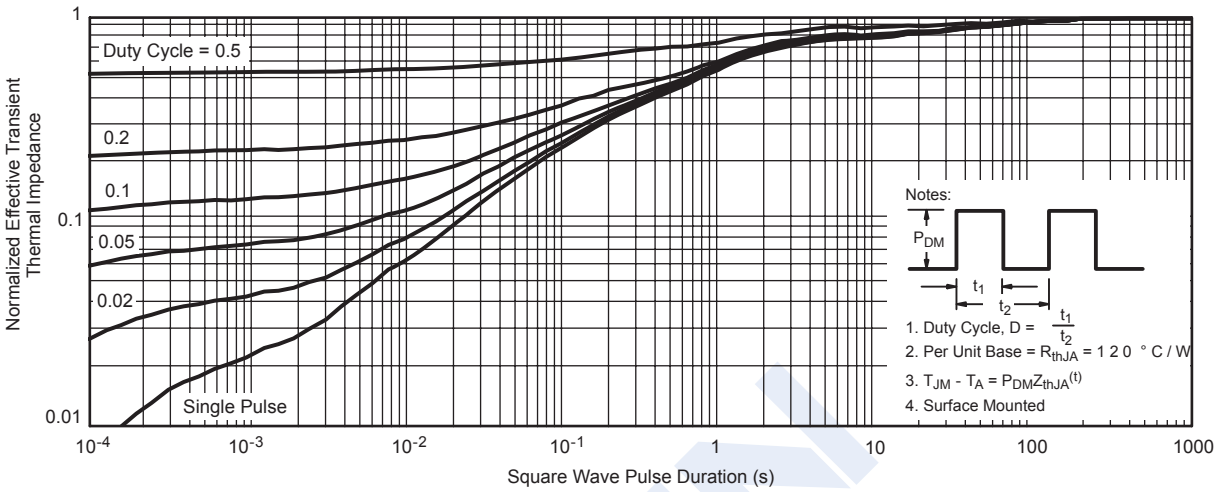
WPM2015 (KPM2015)

■ Typical Characterisitics



Transient thermal response (Junction-to-Ambient)