

## P-Channel MOSFET

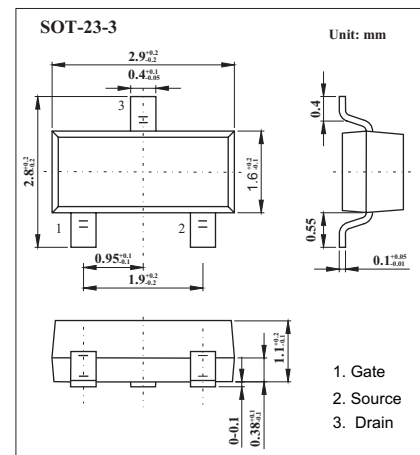
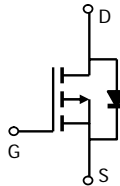
### KO3423

#### Features

$V_{DS} (V) = -20V$

$R_{DS(ON)} < 100m \quad (V_{GS} = -4.5V)$

$R_{DS(ON)} < 150m \quad (V_{GS} = -2.5V)$



#### Absolute Maximum Ratings $T_a = 25$

Parameter	Symbol	5 sec	Steady State	Unit
Drain-Source Voltage	$V_{DS}$	-20		V
Gate-Source Voltage	$V_{GS}$	$\pm 8$		V
Continuous Drain Current ( $T_J=150$ ) *2 $T_A=25$ $T_A=70$	$I_D$	-2.4 -1.9	-2.2 -1.8	A
Pulsed Drain Current *1	$I_{DM}$	-10		A
Continuous Source Current (diode conduction) *2	$I_S$	-0.72	-0.6	A
Power Dissipation *2 $T_A=25$ $T_A=70$	$P_D$	0.9 0.57	0.7 0.45	W
Operating Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150		
Maximum Junction-to-Ambient *2	$R_{thJA}$	145		/W
Maximum Junction-to-Ambient *3		175		

\* 1. Pulse width limited by maximum junction temperature.

\* 2. Surface Mounted on FR4 Board,  $t \leq 5$  sec.

\* 3. Surface Mounted on FR4 Board.

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Electrical Characteristics Ta = 25

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = -250\ \mu\text{A}$	-20			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\ \mu\text{A}$	-0.45		-0.95	V
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0\text{ V}, V_{GS} = \pm 8\text{ V}$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -20\text{ V}, V_{GS} = 0\text{ V}$			-1	$\mu\text{A}$
		$V_{DS} = -20\text{ V}, V_{GS} = 0\text{ V}, T_J = 55$			-10	
On-State Drain Current	$I_{D(on)}$	$V_{DS} = -5\text{ V}, V_{GS} = -4.5\text{ V}$	-6			A
		$V_{DS} = -5\text{ V}, V_{GS} = -2.5\text{ V}$	-3			
Drain-Source On-State Resistance *	$r_{DS(on)}$	$V_{GS} = -4.5\text{ V}, I_D = -2.8\text{ A}$		0.08	0.10	
		$V_{GS} = -2.5\text{ V}, I_D = -2.0\text{ A}$		0.11	0.15	
Forward Transconductance *	$g_{fs}$	$V_{DS} = -5\text{ V}, I_D = -2.8\text{ A}$		6.5		S
Diode Forward Voltage *	$V_{SD}$	$I_S = -0.75\text{ A}, V_{GS} = 0\text{ V}$		-0.8	-1.2	V
Total Gate Charge	$Q_g$	$V_{DS} = -6\text{ V}, V_{GS} = -4.5\text{ V}, I_D = -2.8\text{ A}$		4.5	10	nC
Gate-Source Charge	$Q_{gs}$			0.7		
Gate-Drain Charge	$Q_{gd}$			1.1		
Input Capacitance	$C_{iss}$	$V_{DS} = -6\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$		375		pF
Output Capacitance	$C_{oss}$			95		
Reverse Transfer Capacitance	$C_{rss}$			65		
Turn-On Time	$t_{d(on)}$	$V_{DD} = -6\text{ V}, R_L = 6, I_D = -1\text{ A}, V_{GEN} = -4.5\text{ V}, R_G = 6$		20	30	ns
	$t_r$			40	60	
Turn-Off Time	$t_{d(off)}$			30	45	
	$t_f$			20	30	

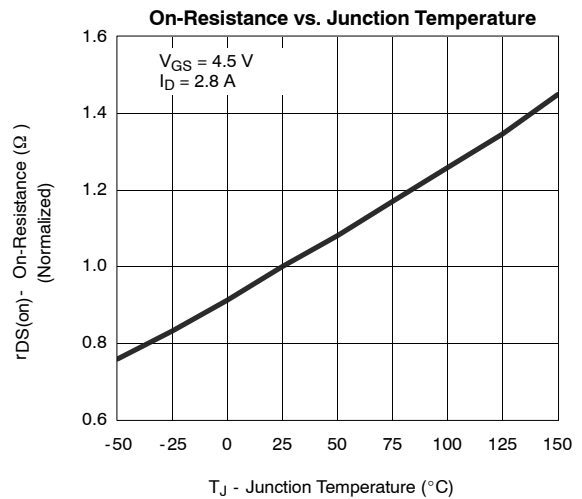
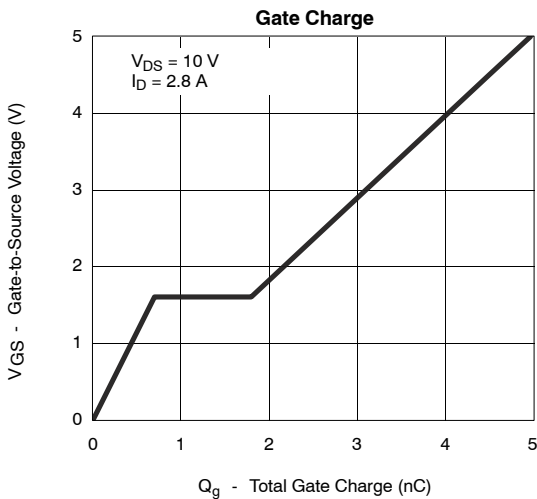
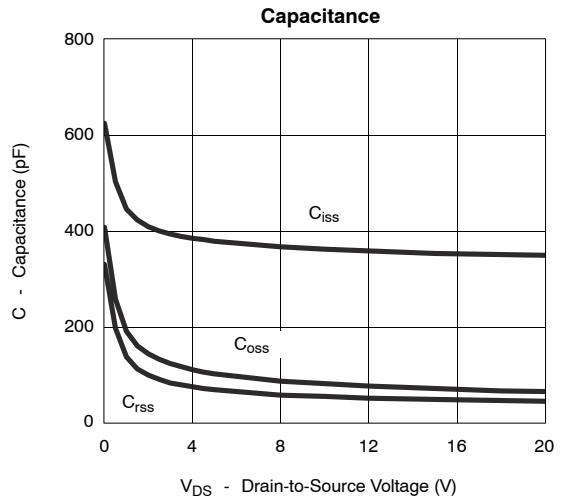
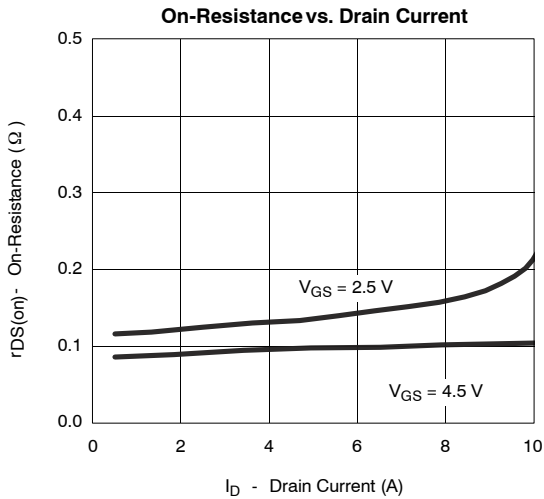
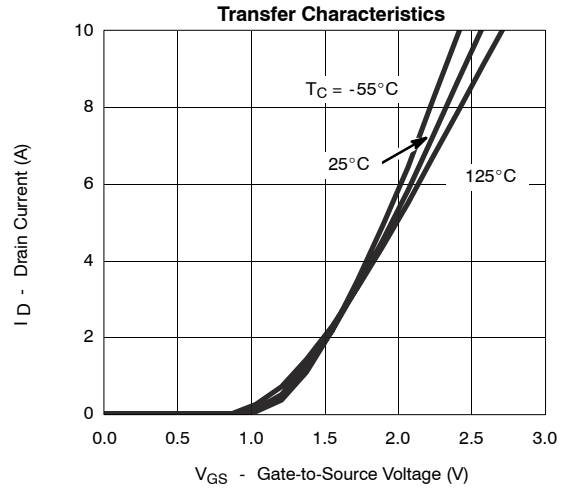
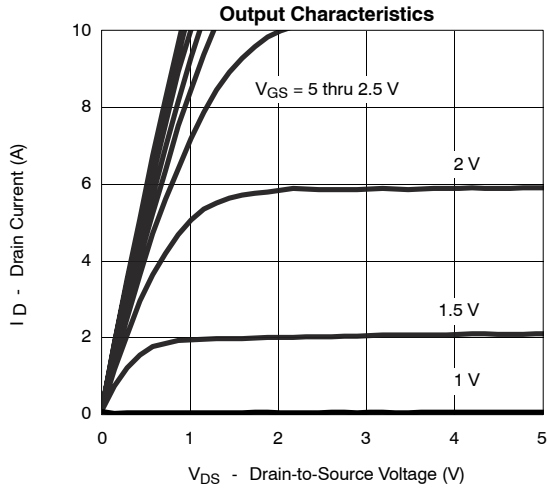
\* Pulse test: PW 300  $\mu\text{s}$  duty cycle 2%.

## ■ Marking

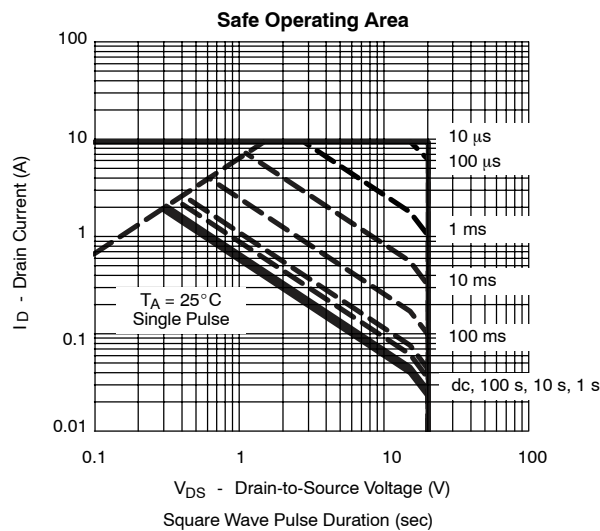
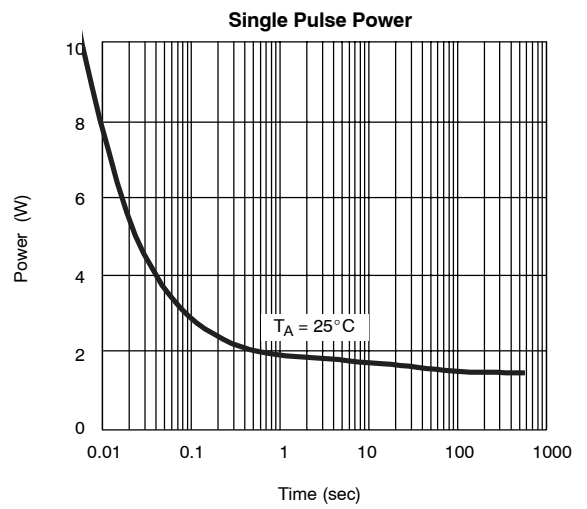
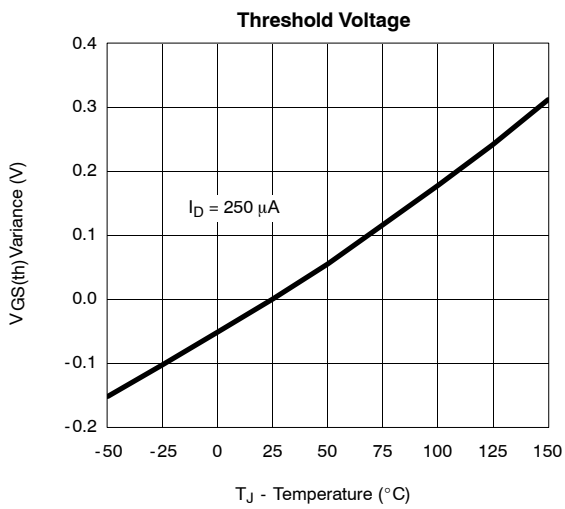
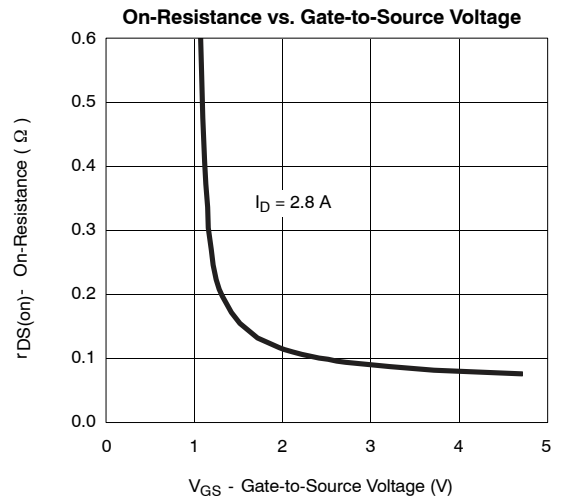
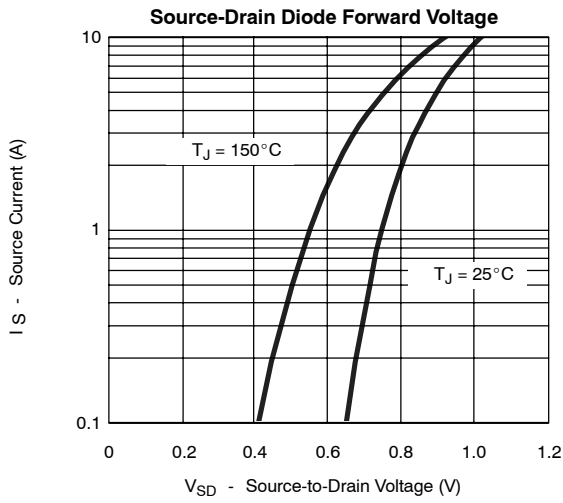
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## Typical Characteristics



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