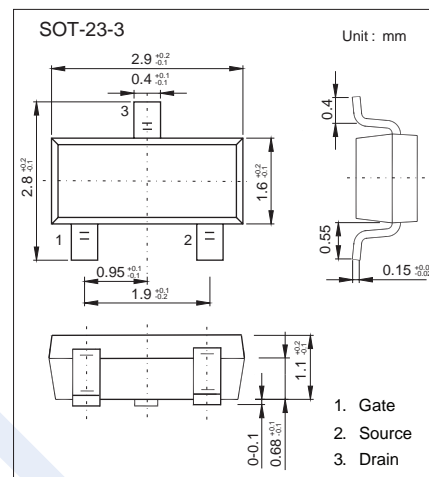


## P-Channel MOSFET

## 2KJ6038

## ■ Features

- $V_{DS} (V) = -20V$
- $I_D = -8.0A$
- $R_{DS(ON)} = 15.4m\Omega(Typ.) @ V_{GS} = -4.5V$
- $R_{DS(ON)} = 20.7m\Omega(Typ.) @ V_{GS} = -2.5V$
- High Power and Current Handling Capability
- Surface Mount Package

■ Absolute Maximum Ratings (T<sub>c</sub> = 25°C Unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	-20	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	
Continuous Drain Current	$I_D$	T <sub>c</sub> = 25°C	-8.0
		T <sub>c</sub> = 100°C	-5.0
Pulsed Drain Current (t <sub>p</sub> ≤ 10μs)	$I_{DM}$	-32	A
Power Dissipation	$P_D$	1.2	W
Thermal Resistance, Junction- to-Ambient	$R^{\theta}_{JA}$	100	°C/W
Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{stg}$	-55 to 150	

## P-Channel MOSFET

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■ Electrical Characteristics ( $T_A = 25^\circ\text{C}$  Unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>Off Characteristics</b>						
Drain-Source Breakdown Voltage	$V_{DS}$	$I_D = -250\mu\text{A}$ , $V_{GS} = 0\text{V}$	-20			V
Zero Gate Voltage Drain Current	$I_{BSS}$	$V_{DS} = -20\text{V}$ , $V_{GS} = 0\text{V}$			-1	$\mu\text{A}$
Gate-Body Leakage Current	$I_{GSS}$	$V_{DS} = 0\text{V}$ , $V_{GS} = \pm 12\text{V}$			$\pm 100$	nA
<b>On Characteristics</b>						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$ , $I_D = -250\mu\text{A}$	-0.4		-1.2	V
Static Drain-Source On-Resistance (Note 1)	$R_{DS(on)}$	$V_{GS} = -4.5\text{V}$ , $I_D = -8\text{A}$		15.4	18	m $\Omega$
		$V_{GS} = -2.5\text{V}$ , $I_D = -6\text{A}$		20.7	28	
Forward Transconductance (Note 1)	$g_{FS}$	$V_{DS} = -5\text{V}$ , $I_D = -8\text{A}$		5		S
<b>Dynamic Characteristics</b>						
Input Capacitance	$C_{iss}$	$V_{GS} = 0\text{V}$ , $V_{DS} = -6\text{V}$ , $f = 1\text{MHz}$		2700		pF
Output Capacitance	$C_{oss}$			680		
Reverse Transfer Capacitance	$C_{rss}$			590		
Total Gate Charge	$Q_g$	$V_{DS} = -6\text{V}$ , $I_D = -5\text{A}$ , $V_{GS} = -4.5\text{V}$		35		nC
Gate Source Charge	$Q_{gs}$			5		
Gate Drain Charge	$Q_{gd}$			10		
<b>Switching Characteristics</b>						
Turn-On Delay Time	$t_{d(on)}$	$V_{DS} = -6\text{V}$ , $I_D = -5\text{A}$ , $R_{GEN} = 1\Omega$ , $R_L = 1.2\Omega$ , $V_{GEN} = -4.5\text{V}$		11		ns
Turn-On Rise Time	$t_r$			35		
Turn-Off Delay Time	$t_{d(off)}$			30		
Turn-Off Fall Time	$t_f$			10		
<b>Drain-Source Diode Characteristics and Maximum Ratings</b>						
Maximum Body-Diode Continuous Current	$I_S$				-8	A
Maximum Body-Diode Pulse Current	$I_{SM}$				-32	
Diode Forward Voltage	$V_{SD}$	$I_{SD} = -1.25\text{A}$ , $V_{GS} = 0\text{V}$		-0.81	-1.2	V

Note 1. Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$

## ■ Marking

Marking	JAO
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## P-Channel MOSFET

## 2KJ6038

## ■ Typical Performance Characteristics

