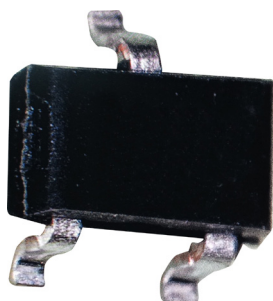


RoHS  
Compliant



## Features

- $V_{DS}$  (V) = -60V
- $I_D$  = -3.5 A ( $V_{GS}$  = -10V)
- $R_{DS(ON)} < 100m\Omega$  ( $V_{GS}$  = -10V)
- $R_{DS(ON)} < 120m\Omega$  ( $V_{GS}$  = -4.5V)

## Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ )

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		$V_{DS}$	-60	V
Gate-Source Voltage		$V_{GS}$	+20	
Continuous Drain Current	$T_a = 25^\circ\text{C}$	$I_D$	-3.5	A
	$T_a = 100^\circ\text{C}$		-2.2	
Pulsed Drain Current	(Note.1)	$I_{DM}$	-20	
Power Dissipation		$P_D$	1.25	W
Thermal Resistance Junction- to-Ambient	(Note.2)	$R_{thJA}$	100	$^\circ\text{C/W}$
Junction Temperature		$T_J$	150	$^\circ\text{C}$
Storage Temperature Range		$T_{stg}$	-55 to 150	

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

Note.2:1.Surface mounted on 1 in<sup>2</sup> copper pad of FR-4 board. 156/W when mounted on minimum copper pad.

## Electrical Characteristics $T_a = 25^\circ\text{C}$

Characteristic	Symbol	Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{DSS}$	$I_D = -250\mu\text{A}$ , $V_{GS} = 0\text{V}$	-60			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -48\text{V}$ , $V_{GS} = 0\text{V}$			1	$\mu\text{A}$
		$V_{DS} = -48\text{V}$ , $V_{GS} = 0\text{V}$ , $T_J = 70^\circ\text{C}$			25	
Gate-Body leakage current	$I_{GSS}$	$V_{DS} = 0\text{V}$ , $V_{GS} = \pm 20\text{V}$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$ , $I_D = -250\mu\text{A}$	-1		-2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = -10\text{V}$ , $I_D = -3\text{A}$			100	m $\Omega$
		$V_{GS} = -4.5\text{V}$ , $I_D = -2.7\text{A}$			120	
Forward Transconductance	$g_{FS}$	$V_{DS} = -5\text{V}$ , $I_D = -3\text{A}$		5.8		S
Input Capacitance	$C_{iss}$	$V_{GS} = 0\text{V}$ , $V_{DS} = -30\text{V}$ , $f = 1\text{MHz}$		929		pF
Output Capacitance	$C_{oss}$			48		
Reverse Transfer Capacitance	$C_{rss}$			33		

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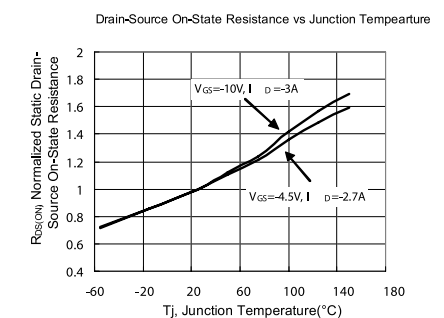
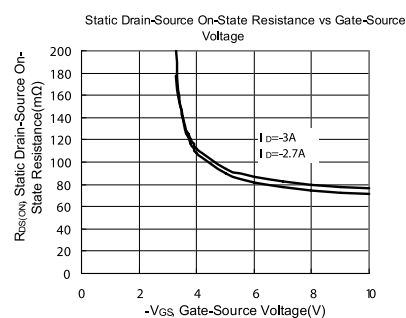
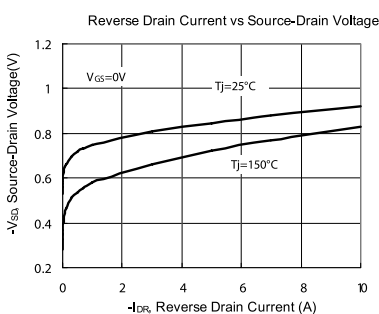
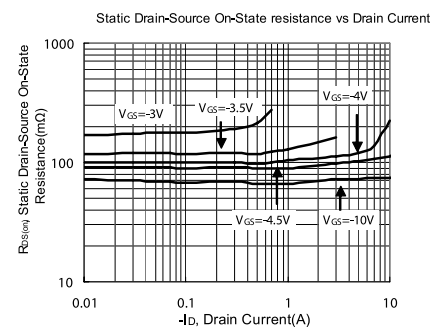
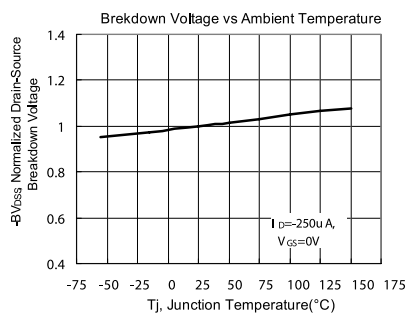
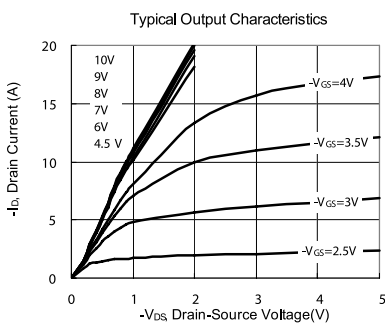
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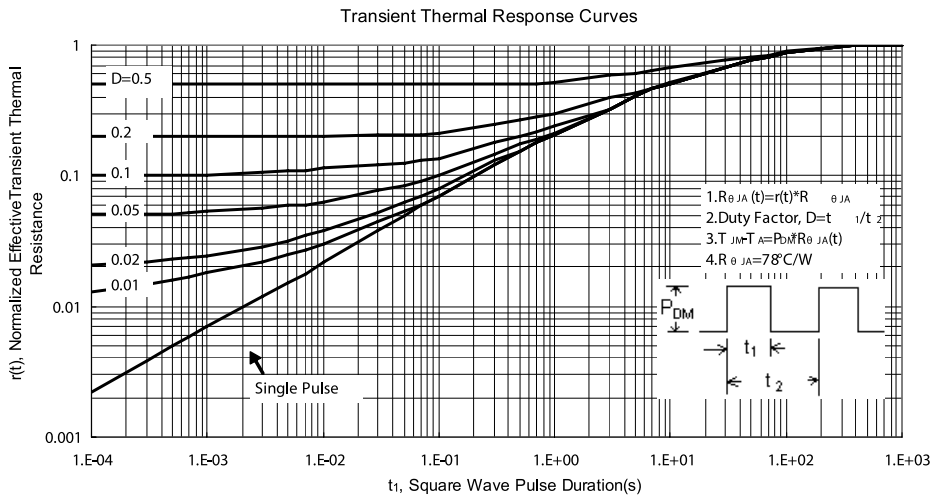
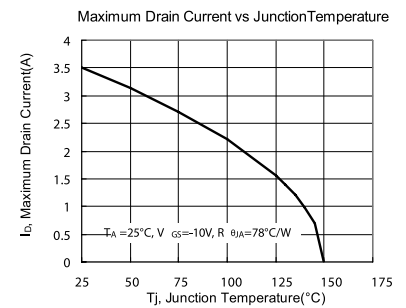
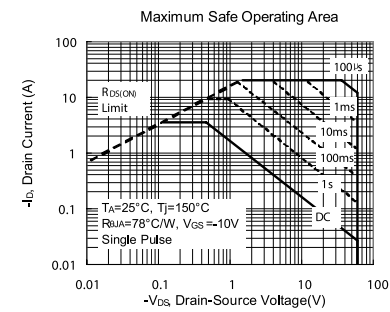
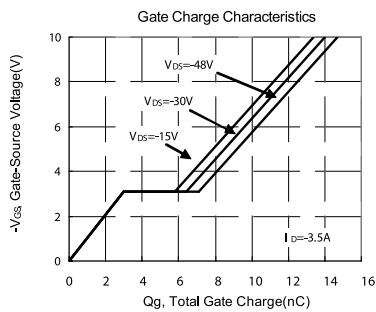
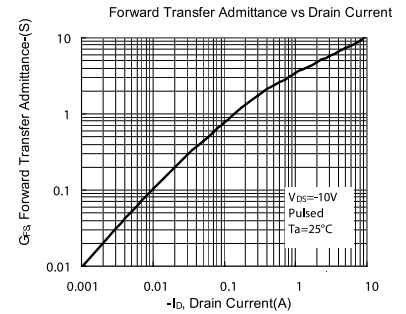
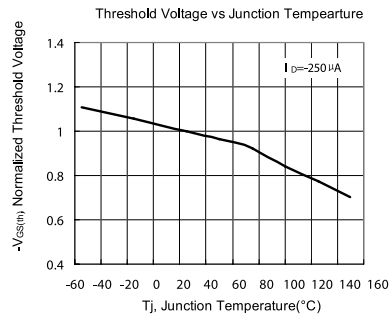
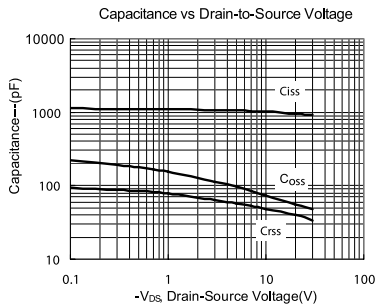
Characteristic	Symbol	Conditions	Min	Typ	Max	Unit
Total Gate Charge	$Q_g$	$V_{GS}=-10V, V_{DS}=-30V, I_D=-3.5A$		14		nC
Gate Source Charge	$Q_{gs}$			3		
Gate Drain Charge	$Q_{gd}$			3.4		
Turn-On DelayTime	$t_{d(on)}$	$V_{GS}=-10V, V_{DS}=-30V, I_D=-1A, R_G=6\Omega$		10		nS
Turn-On Rise Time	$t_r$			22		
Turn-Off DelayTime	$t_{d(off)}$			27		
Turn-Off Fall Time	$t_f$			14		
Body Diode Reverse Recovery Time	$t_{rr}$	$I_F=-2A, V_{GS}=0V, dI/dt=100A/\mu s$		12		nC
Body Diode Reverse Recovery Charge	$Q_{rr}$			7		
Maximum Body-Diode Continuous Current	$I_S$				-3.5	A
Body-Diode Pulsed Current	$I_{SM}$				-20	
Diode Forward Voltage	$V_{SD}$	$I_S=-2A, V_{GS}=0V$			-1.2	V

Note:Pulse Test : Pulse Width  $\leq 300\mu s$ , Duty Cycle $\leq 2\%$

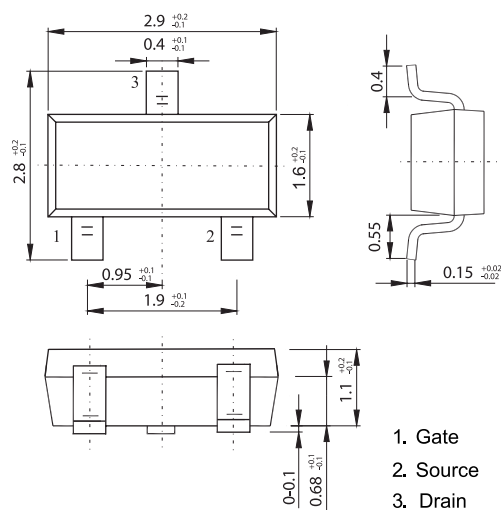
## Typical Characteristics



## Typical Characteristics



Diagram



Part Number Table

Description	Part Number
P Channel MOSFET, 3.5A, 60V, SOT23-3	2KJ6021

Dimensions : Millimetres

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