

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 (Ta=25°C)

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	$V_{DS}$	-60	V	
Gate-Source Voltage	$V_{GS}$	+20		
Continuous Drain Current	$I_D$	Ta = 25°C	-3.5	
		Ta = 100°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	°C/W
Junction Temperature	$T_J$	150	°C	
Storage Temperature Range	$T_{stg}$	-55 to 150		

Note.1:Pulse Width  $\leq 300\mu s$ , 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 Ta = 25°C

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

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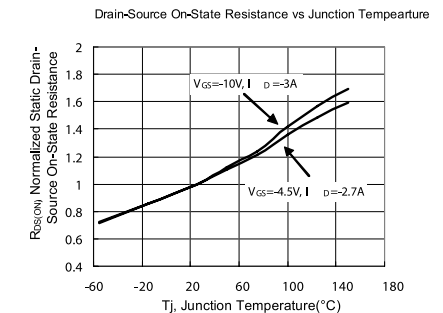
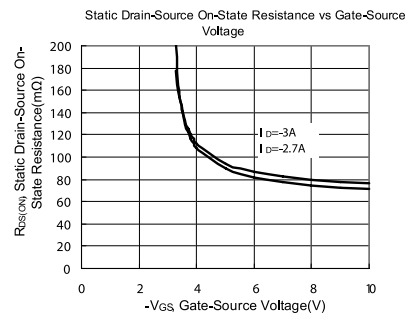
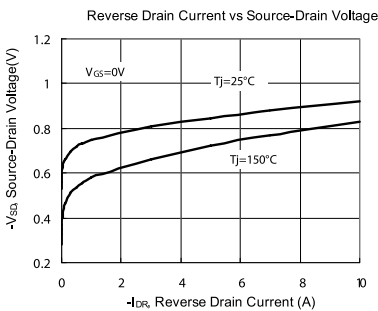
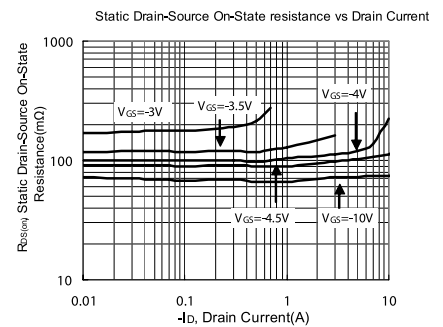
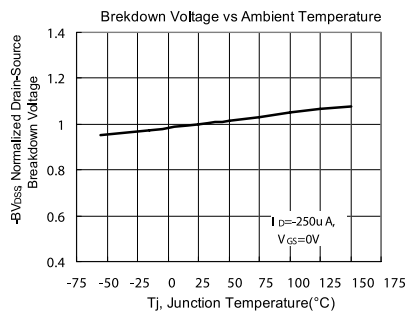
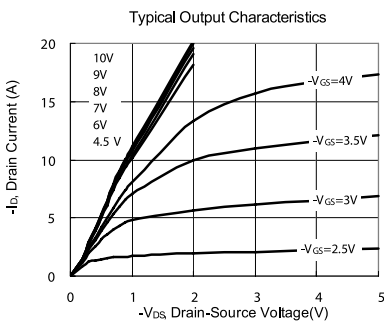
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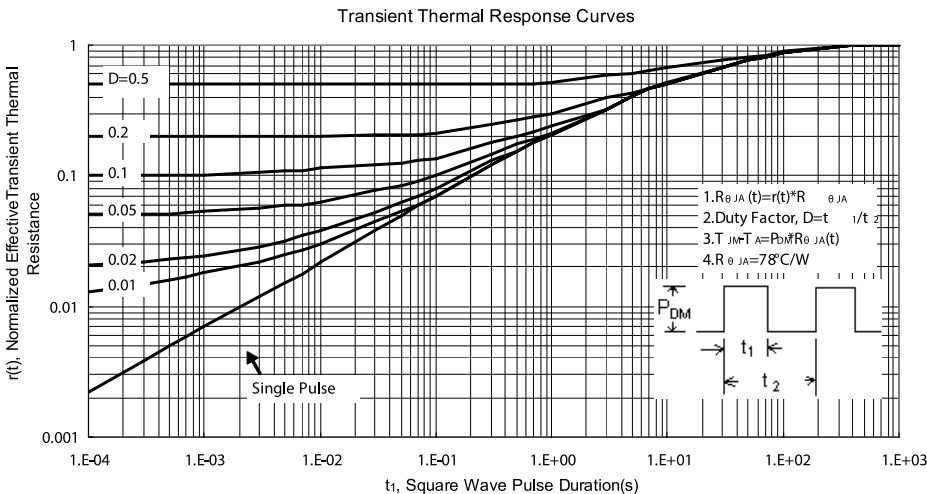
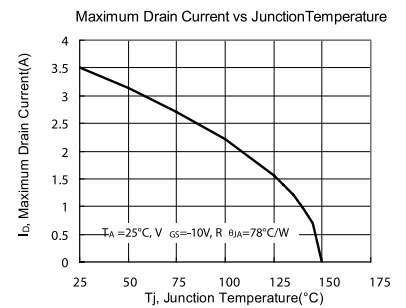
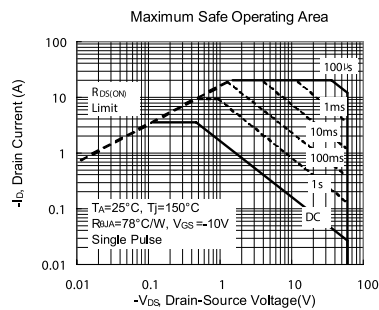
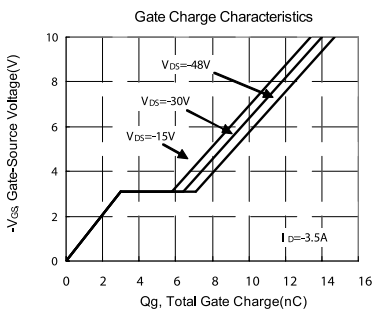
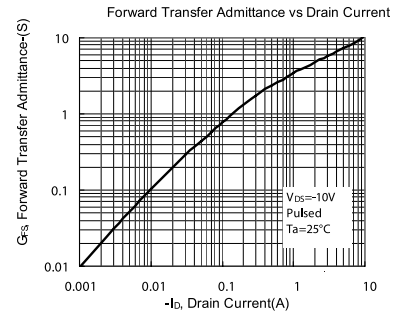
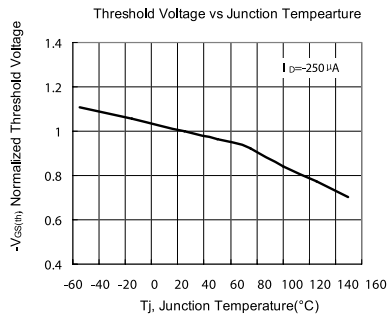
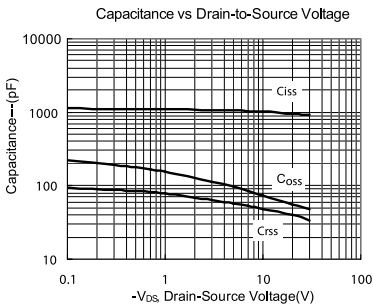
Characteristic	Symbol	Conditions	Min	Typ	Max	Unit
Total Gate Charge	$Q_g$	$V_{GS}=-10V, V_{DS}=-30V, I_D=-3.5A$		14		nC
Gate Source Charge	$Q_{gs}$			3		
Gate Drain Charge	$Q_{gd}$			3.4		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=-10V, V_{DS}=-30V, I_D=-1A, R_G=6\Omega$		10		nS
Turn-On Rise Time	$t_r$			22		
Turn-Off Delay Time	$t_{d(off)}$			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	
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  $\leq 2\%$

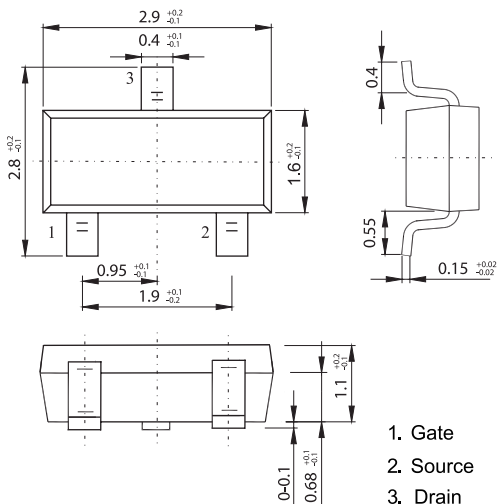
## Typical Characteristics



## Typical Characteristics



## Diagram



## Part Number Table

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

Dimensions : Millimetres

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