



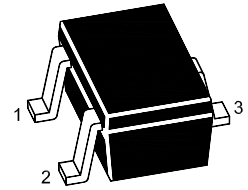
# PJM7002KNSI

## N-Channel Enhancement Mode Power MOSFET

### Features

- High density cell design for low  $R_{DS(on)}$
- Voltage controlled small signal switching
- High saturation current capability
- ESD protected(HBM) up to 2.5KV
- $V_{DS} = 60V, I_D = 0.34A$   
 $R_{DS(on)} < 5\Omega @ V_{GS} = 10V$

### SOT-323



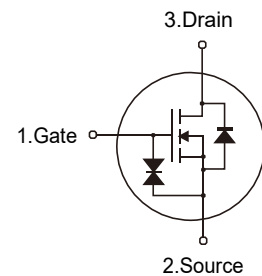
1. Gate 2. Source 3. Drain

Marking Code: 72K

### Applications

- DC/DC Converter
- Load Switch for Portable Devices

### Schematic Diagram



### Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Drain Current-Continuous	$I_D$	0.34	A
Drain Current-Pulsed <sup>Note1</sup>	$I_{DM}$	0.8	A
Maximum Power Dissipation	$P_D$	0.2	W
Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{STG}$	-55 to +150	°C

### Thermal Characteristics

Thermal Resistance, Junction-to-Ambient <sup>Note2</sup>	$R_{\theta JA}$	625	°C/W
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### Electrical Characteristics

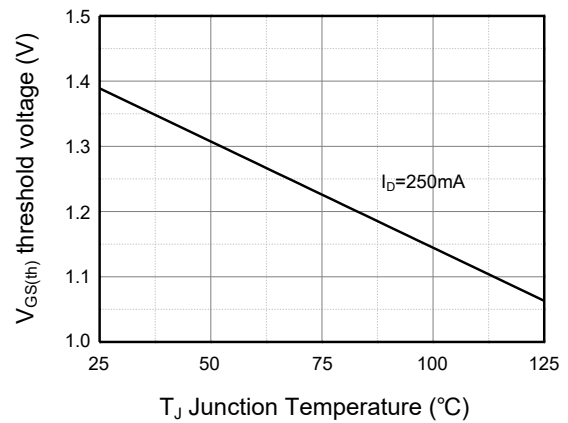
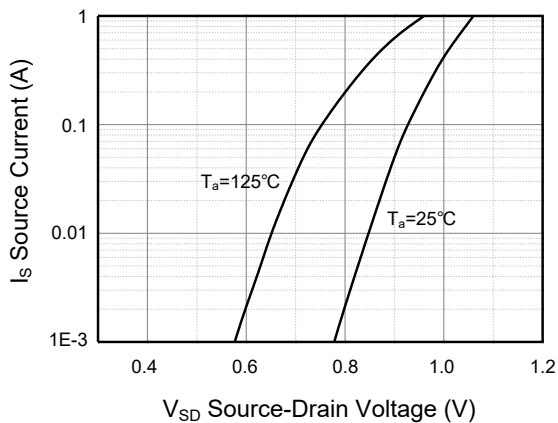
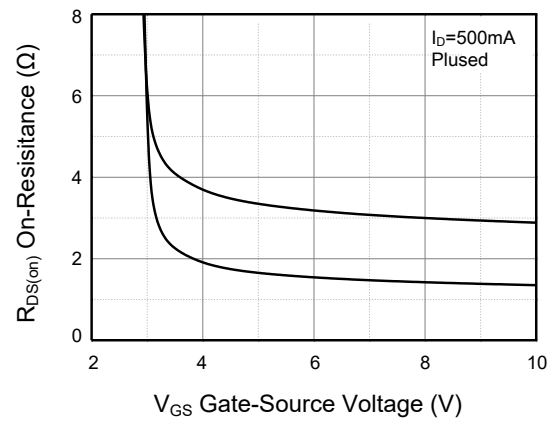
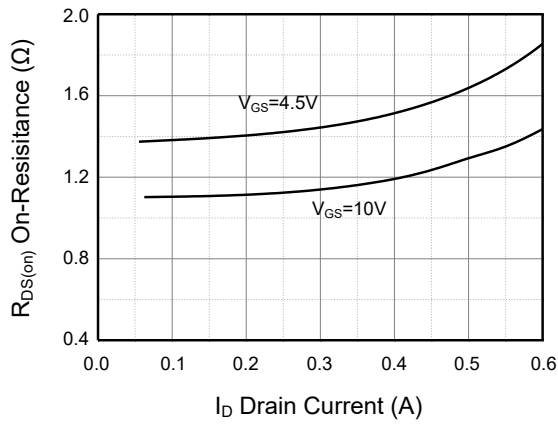
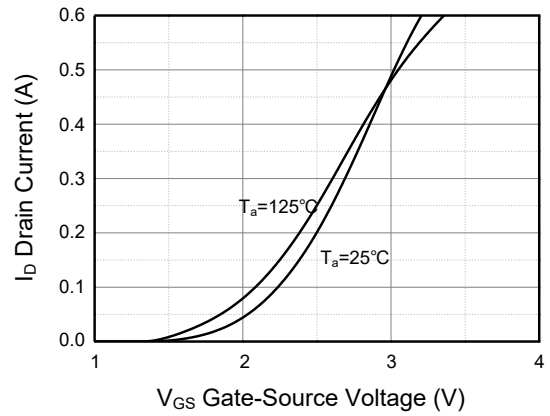
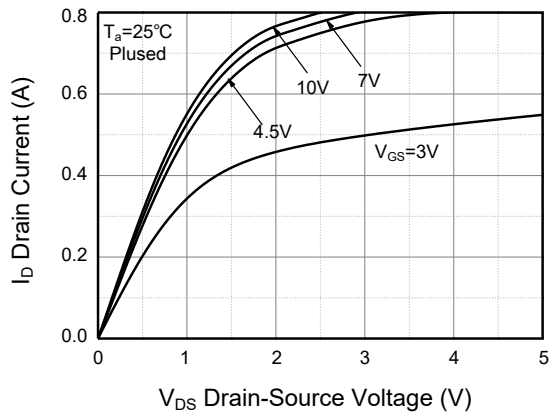
(Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	60	--	--	V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=48V, V_{GS}=0V$	--	--	1	$\mu A$
Gate-Body Leakage Current	$I_{GSS}$	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	$\pm 10$	$\mu A$
Gate Threshold Voltage <sup>Note3</sup>	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.4	2.5	V
Drain-Source On-Resistance <sup>Note3</sup>	$R_{DS(on)}$	$V_{GS}=10V, I_D=0.5A$	--	1.3	5	$\Omega$
		$V_{GS}=4.5V, I_D=0.2A$	--	1.4	5.3	$\Omega$
<b>Dynamic Characteristics</b>						
Input Capacitance	$C_{iss}$	$V_{DS}=10V, V_{GS}=0V, f=1MHz$	--	--	40	pF
Output Capacitance	$C_{oss}$		--	--	30	pF
Reverse Transfer Capacitance	$C_{rss}$		--	--	10	pF
<b>Switching Characteristics</b>						
Turn-on Delay Time	$t_{d(on)}$	$V_{GS}=10V, V_{DD}=50V,$	--	--	10	nS
Turn-off Delay Time	$t_{d(off)}$	$R_G=50\Omega, R_{GS}=50\Omega, R_L=250\Omega$	--	--	15	nS
Reverse Recovery Time	$t_{rr}$	$V_{GS}=0V, I_S=300mA, V_R=25V,$ $di_s/dt=-100A/\mu S$	--	30	--	nS
Recovered Charge	$Q_r$	$V_{GS}=0V, I_S=300mA, V_R=25V,$ $di_s/dt=-100A/\mu S$	--	30	--	nC
<b>Source-Drain Diode Characteristics</b>						
Diode Forward Voltage <sup>Note3</sup>	$V_{SD}$	$V_{GS}=0V, I_S=0.3A$	--	--	1.5	V
Diode Forward Current <sup>Note2</sup>	$I_S$		--	--	0.2	A

Note: 1. Repetitive rating: Pulse width limited by junction temperature.  
 2. Surface Mounted on FR4 Board,  $t \leq 10$  sec.  
 3. Pulse Test: Pulse width  $\leq 300\mu s$ , duty cycle  $\leq 2\%$ .



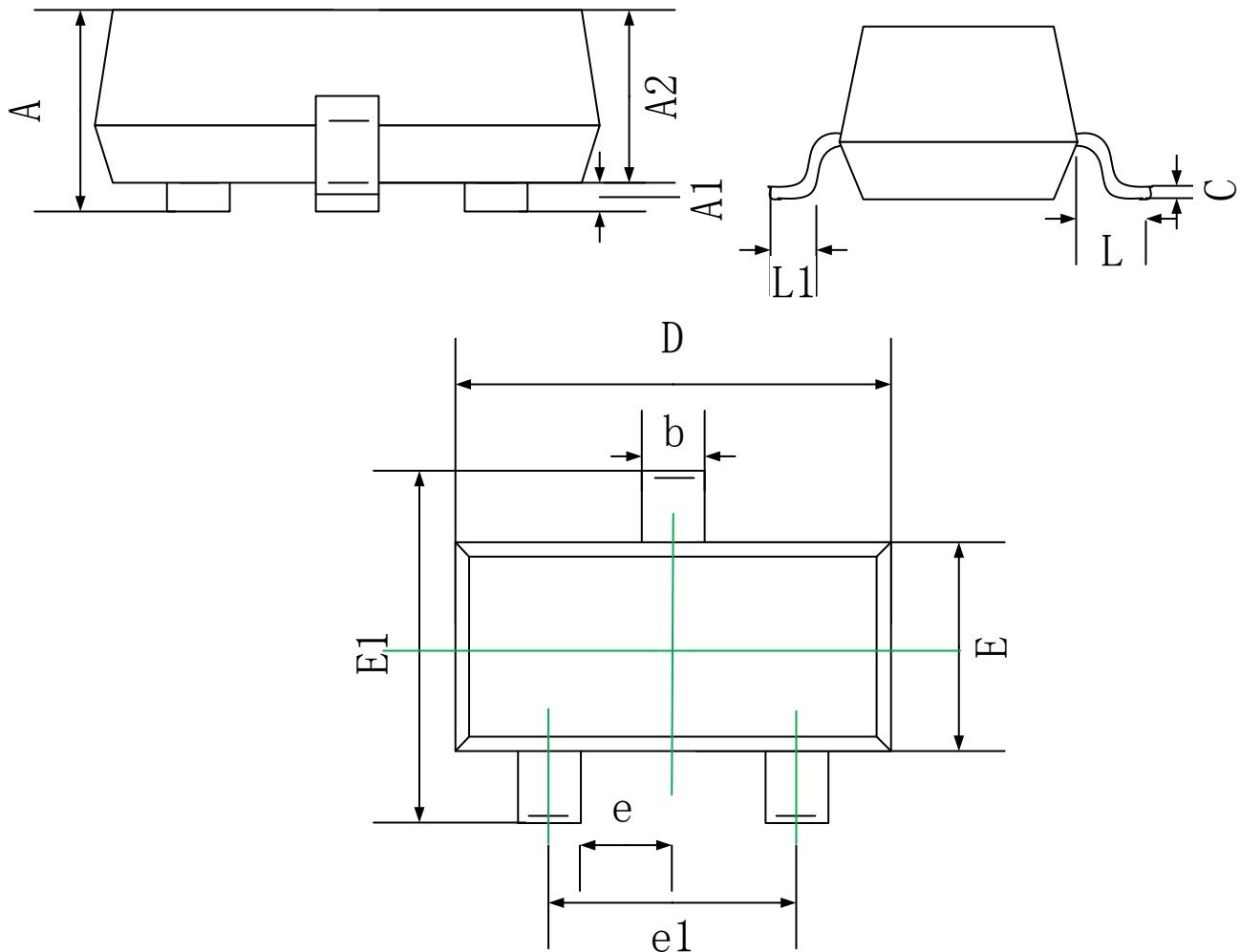
### Typical Characteristic Curves



### Package Outline

SOT-323

Dimensions in mm



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.10
A1	0.00	0.10
A2	0.90	1.00
b	0.30	0.50
c	0.10	0.15
D	2.00	2.20
E	1.15	1.35
E1	2.15	2.40
e	0.65 TYP.	
e1	1.20	1.40
L	0.525 REF.	
L1	0.26	0.46