



PJM7002KNSI

N-Channel Enhancement Mode Power MOSFET

Product Summary

- $V_{DS}=60V, I_D=0.3A$
- $R_{DS(on)} < 2.3\Omega @ V_{GS}=10V$
- $R_{DS(on)} < 2.9\Omega @ V_{GS}=4.5V$

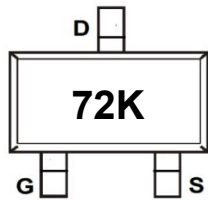
Features

- ESD Protected(HBM) up to 2KV
- Advanced Trench Technology
- RoHS and Reach Compliant
- Halogen and Antimony Free
- Moisture Sensitivity Level 3

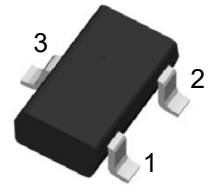
Application

- Battery Operated Systems
- Direct Logic-level Interface:TTL/CMOS
- Solid-State Relays

Marking Code



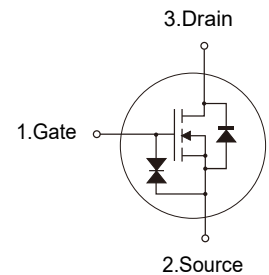
SOT-323



(Top View)

Pin	Description
1	Gate
2	Source
3	Drain

Schematic Diagram



Absolute Maximum Ratings

(Ta=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous	I_D	0.3	A
Drain Current-Pulsed ^{Note1}	I_{DM}	0.8	A
Maximum Power Dissipation	P_D	0.3	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance,Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	417	°C/W
---	-----------------	-----	------



PJM7002KNSI

N-Channel Enhancement Mode Power MOSFET

Electrical Characteristics

(Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	60	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V, V_{GS}=0V$	--	--	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	± 10	μA
Gate Threshold Voltage ^{Note3}	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.6	2.5	V
Drain-Source On-Resistance ^{Note3}	$R_{DS(on)}$	$V_{GS}=10V, I_D=0.3A$	--	1.8	2.3	Ω
		$V_{GS}=4.5V, I_D=0.2A$	--	2.1	2.9	Ω
Forward Transconductance ^{Note3}	g_{FS}	$V_{DS}=5V, I_D=0.3A$	--	0.5	--	S
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=15V, V_{GS}=0V, f=1MHz$	--	33	--	pF
Output Capacitance	C_{oss}		--	14	--	pF
Reverse Transfer Capacitance	C_{rss}		--	8	--	pF
Total Gate Charge	Q_g	$V_{DS}=10V, I_D=0.3A,$ $V_{GS}=4.5V$	--	1.7	--	nC
Gate-Source Charge	Q_{gs}		--	0.3	--	nC
Gate-Drain Charge	Q_{gd}		--	0.6	--	nC
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=10V, I_D=0.2A,$ $V_{GS}=10V, R_{GEN}=10\Omega$	--	2	--	nS
Turn-on Rise Time	t_r		--	15	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	7	--	nS
Turn-off Fall Time	t_f		--	20	--	nS
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	V_{SD}	$V_{GS}=0V, I_S=0.3A$	--	--	1.2	V
Diode Forward Current ^{Note2}	I_S		--	--	0.3	A

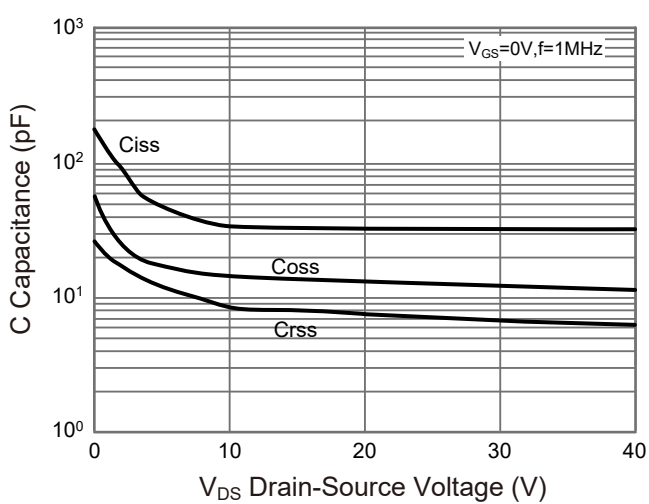
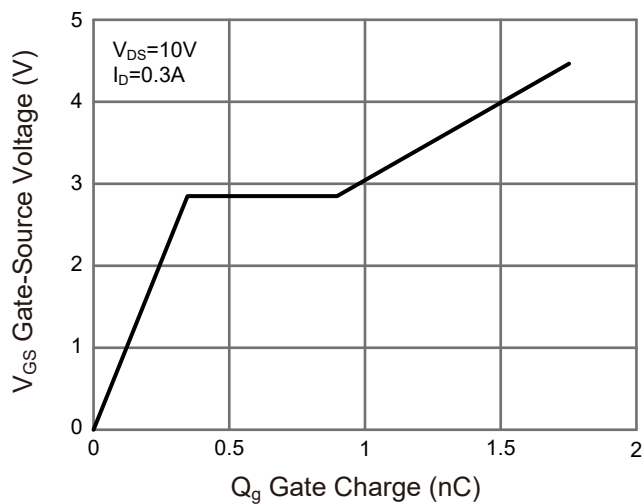
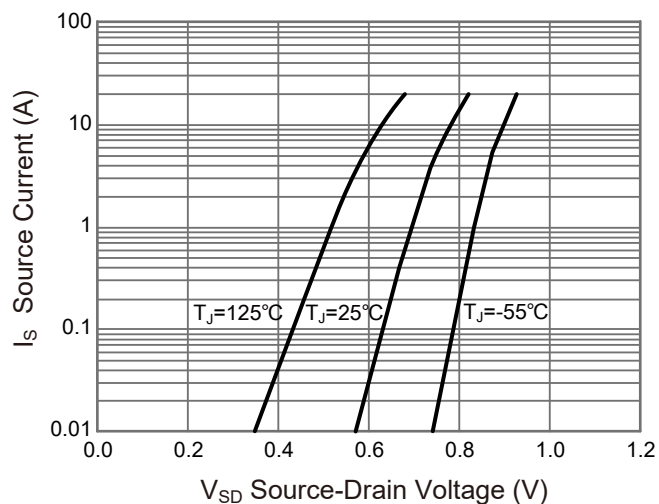
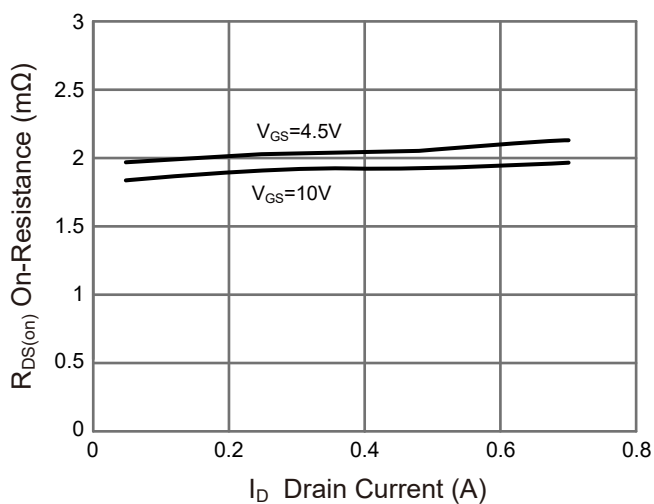
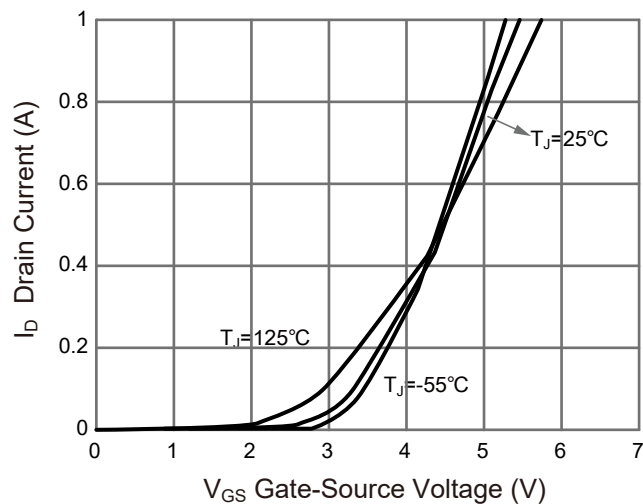
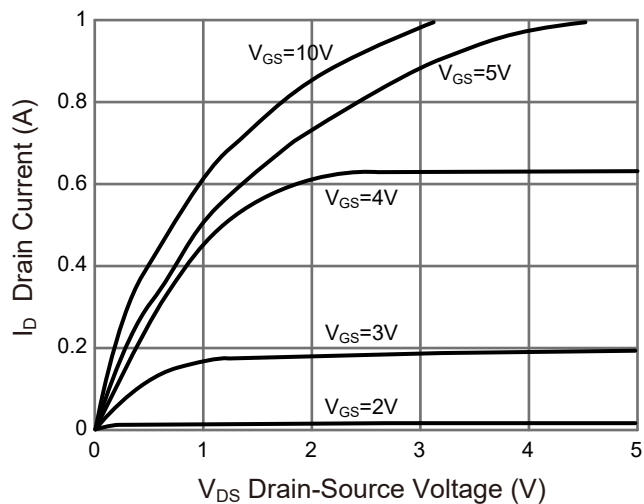
Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, $t \leq 10$ sec.
3. Pulse Test: Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.



PJM7002KNSI

N-Channel Enhancement Mode Power MOSFET

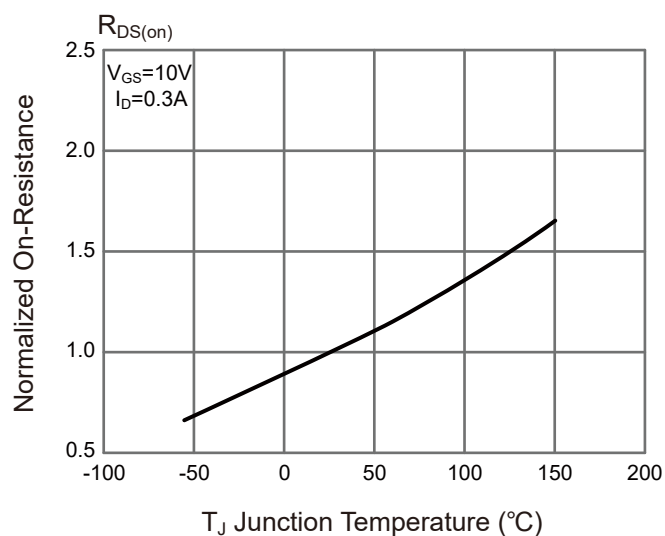
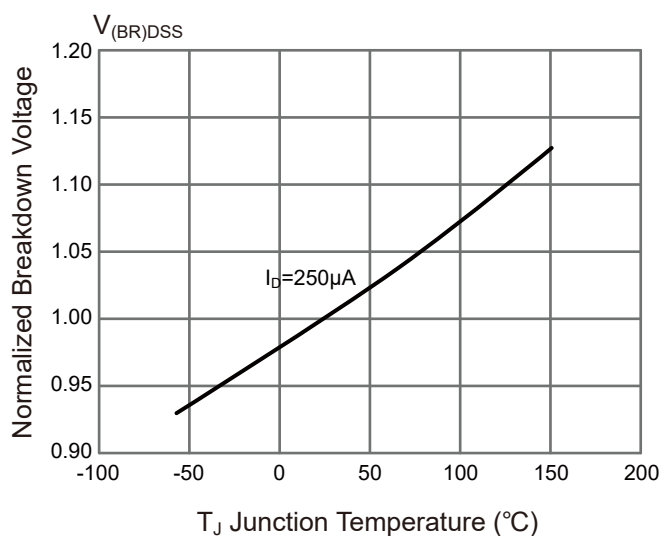
Typical Characteristic Curves





PJM7002KNSI

N-Channel Enhancement Mode Power MOSFET





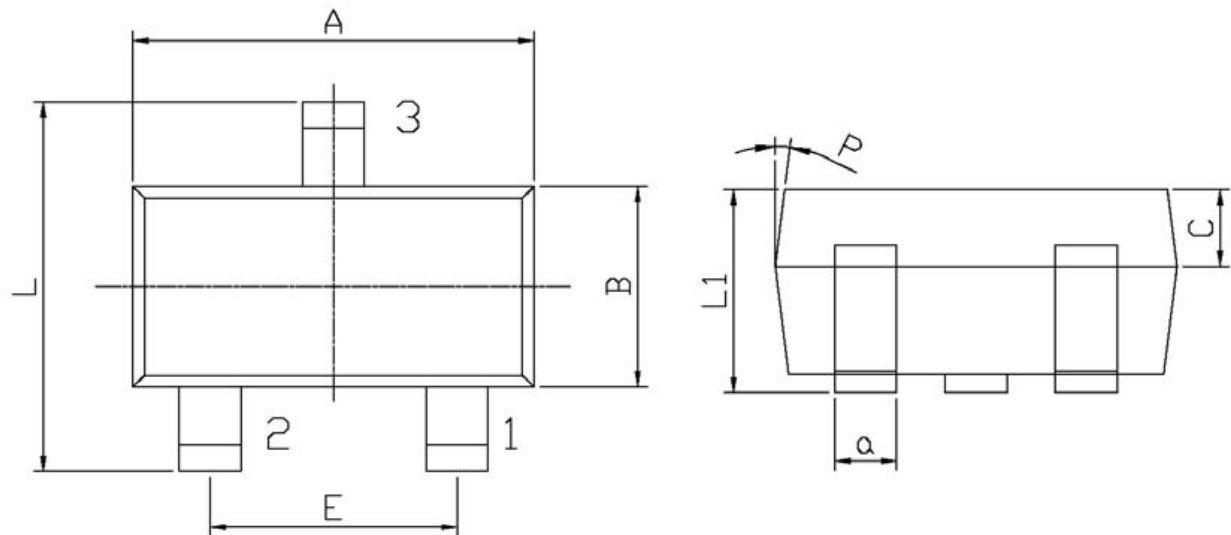
PJM7002KNSI

N-Channel Enhancement Mode Power MOSFET

Package Outline

SOT-323

Dimensions in mm



Symbol	Dimensions		Symbol	Dimensions	
	Min.	Max.		Min.	Max.
A	1.95	2.35	C	0.30	0.50
L	2.00	2.20	L1	0.85	1.15
E	1.20	1.40	a	0.20	0.40
B	1.15	1.35	P	7°	

Ordering Information

Device	Package	Shipping
PJM7002KNSI	SOT-323	3,000PCS/Reel&7inches