



2N7002K

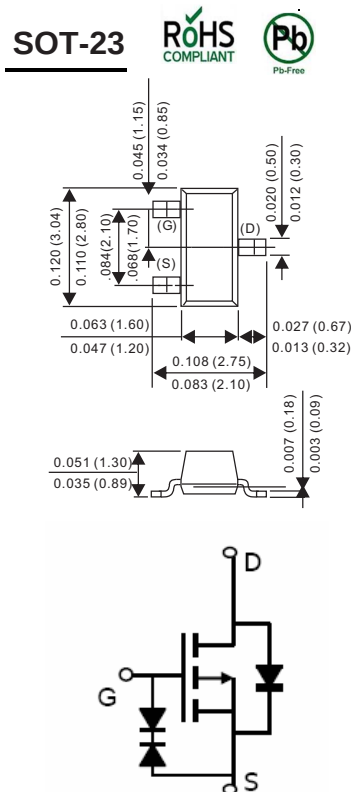
N-Channel Enhancement Mode Mosfet

Feature

- 60V/0.2A, $R_{DS(ON)} = 4\Omega$ (MAX) @ $V_{GS} = 10V$, $I_D = 0.5A$
 $R_{DS(ON)} = 4\Omega$ (MAX) @ $V_{GS} = 5V$, $I_D = 0.05A$
- Super High dense cell design for extremely low $R_{DS(ON)}$.
- Reliable and Rugged.
- SOT-23 for Surface Mount Package.
- ESD protected up to 2KV

Applications

- Power Management in Desktop Computer or DC/DC Converters .



Dimensions in inches and (millimeters)

Absolute Maximum Ratings $T_A=25^\circ C$ Unless Otherwise noted

Parameter	Symbol	Limit	Units
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 15	V
Drain Current-Continuous	I_D	0.2	A

Electrical Characteristics $T_A=25^\circ C$ Unless Otherwise noted

Parameter	Symbol	Test Conditions	Min	Typ.	Max	Units
Off Characteristics						
Drain to Source Breakdown Voltage	BVDSS	VGS=0V, ID=10μA	60	-	-	V
Zero-Gate Voltage Drain Current	IDSS	VDS=60V, VGS=0V	-	-	1	μA
Gate Body Leakage Current, Forward	IGSSF	VGS=15V, VDS=0V	-	-	1	μA
Gate Body Leakage Current, Reverse	IGSSR	VGS=-15V, VDS=0V	-	-	-1	μA
On Characteristics						
Gate Threshold Voltage	VGS(th)	VGS= VDS, ID=250μA	1.35	-		V
Static Drain-source	RDS(ON)	VGS =10V, ID =0.5A	-	2.5	4	Ω
On-Resistance *		VGS =5V, ID =0.05 A	-	2.5	4	Ω
Drain-Source Diode Characteristics and Maximum Ratings						
Drain-Source Diode Forward Voltage	VSD	VGS =0V, IS=0.2A			2.5	V

Notes :

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

Typical Characteristics

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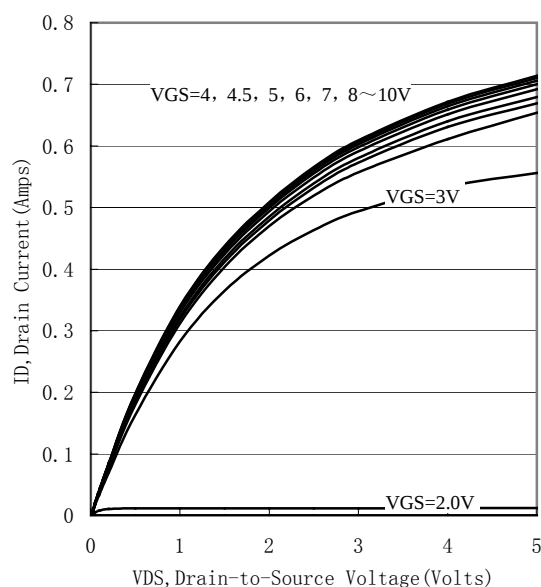


Figure 1. Output Characteristics

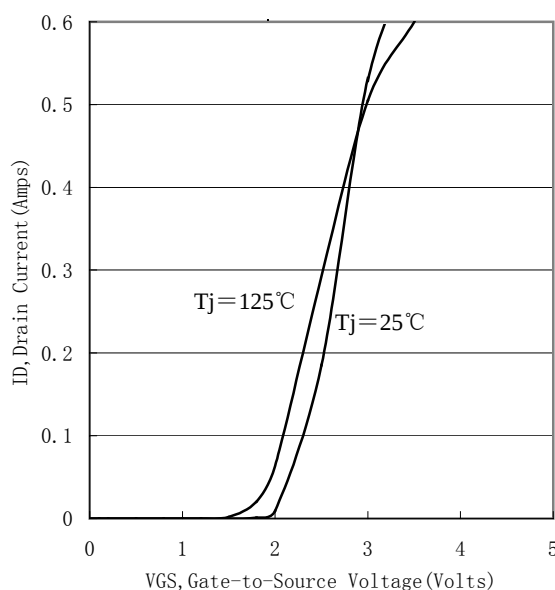


Figure 2. Transfer Characteristics

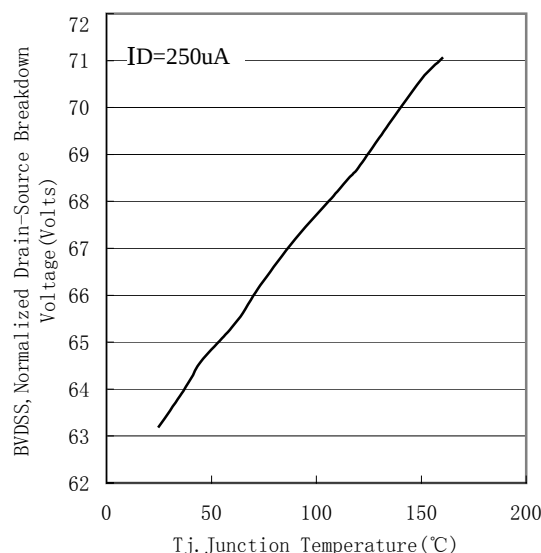


Figure 3. Breakdown Voltage Variation with Temperature

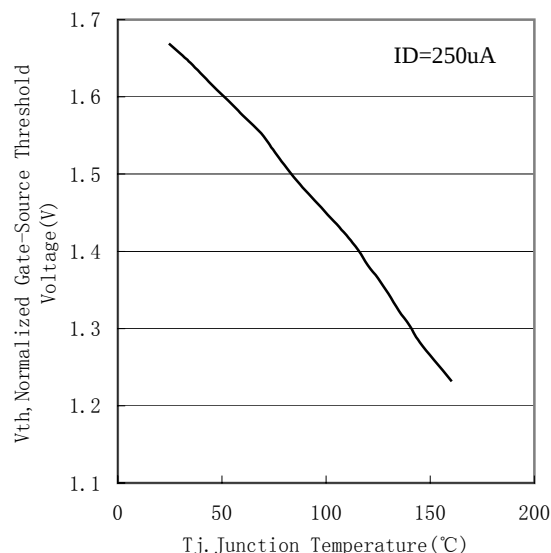


Figure 4. Gate Threshold Variation with Temperature

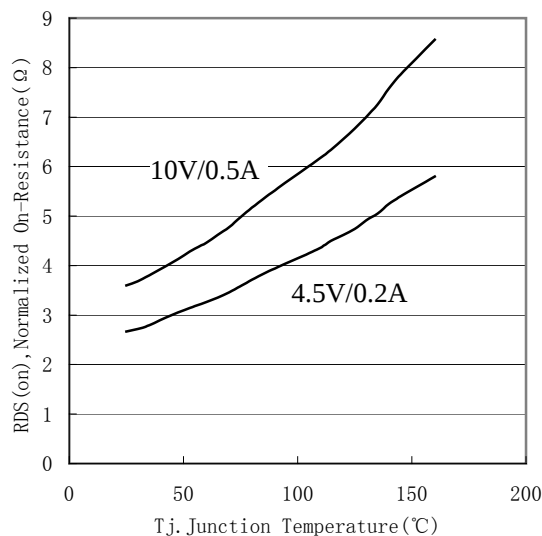


Figure 5. On-Resistance Variation with Temperature

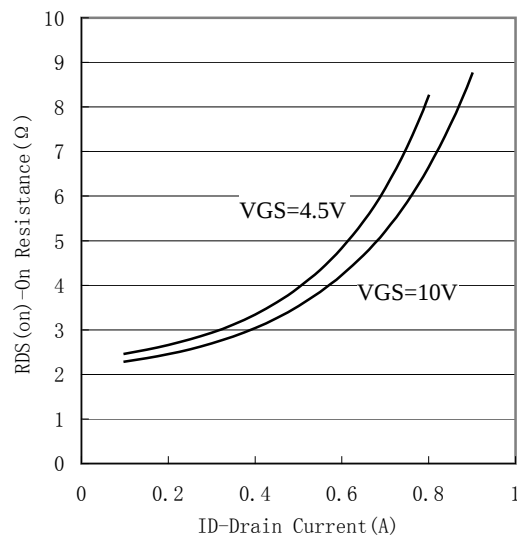


Figure 6. On-Resistance vs. Drain Current

Typical Characteristics

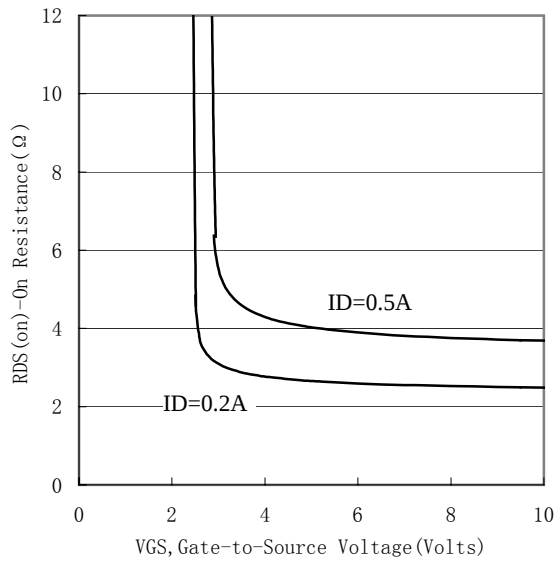


Figure 7. On-Resistance vs. Gate-to-Source Voltage

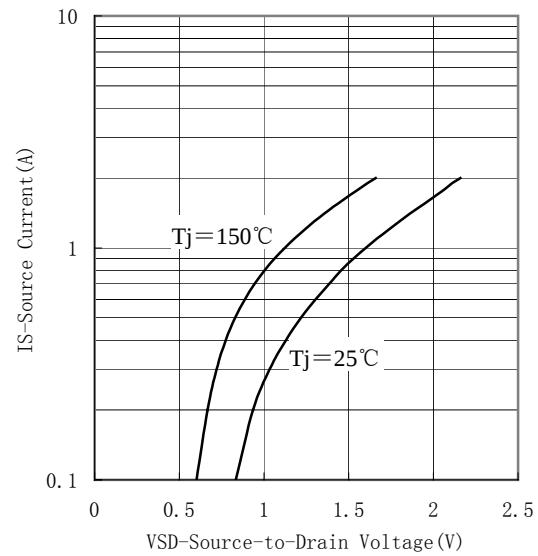
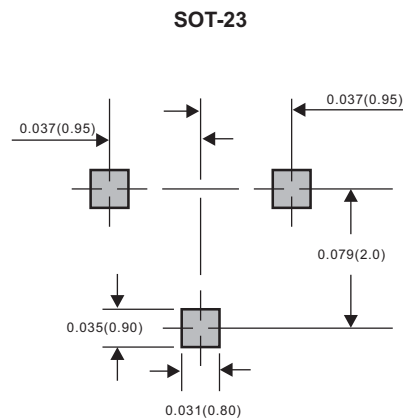


Figure 8. Source-Drain Diode Forward Voltage

Marking

Type number	Marking code
2N7002K	7002K/72K

Suggested solder pad layout



Dimensions in inches and (millimeters)