

60V N-Channel MOSFET

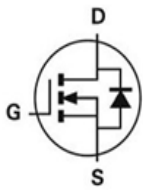
Description

The PM60N03 uses advanced Trench technology and designs to provide excellent $R_{DS(ON)}$ with low gate charge. This device is suitable for use in PWM, load switching and general purpose applications.

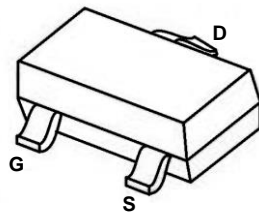
Features

- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability
- Capable doing Cu wire bonding
- ESD protected Gate HBM 2KV

Dimensions and Pin Configuration



Circuit diagram

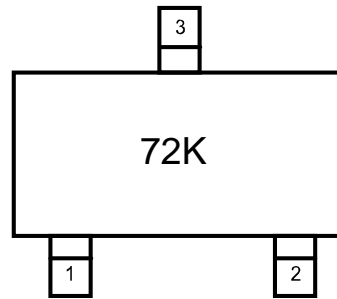


SOT-23

Applications

- Power Management in Note book
- Portable Equipment
- Battery Powered System

Marking Information



72K = Device Marking Code

MOSFET Product Summary

V_{DSS}	$R_{DS(ON)}$ @ $V_{GS}=10V$	$R_{DS(ON)}$ @ $V_{GS}=4.5V$	I_D
60V	3Ω	4Ω	340mA

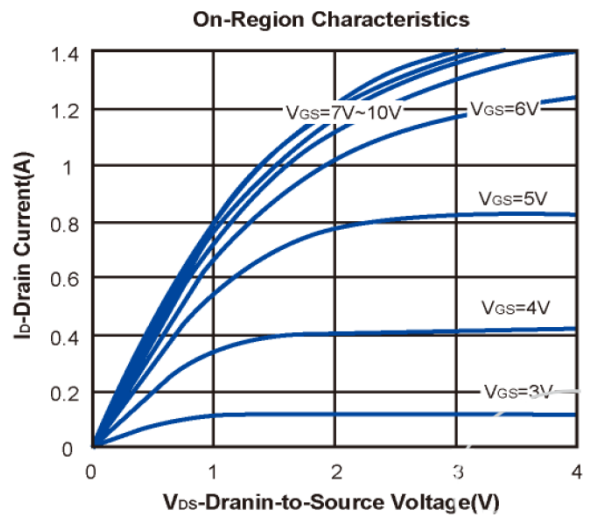
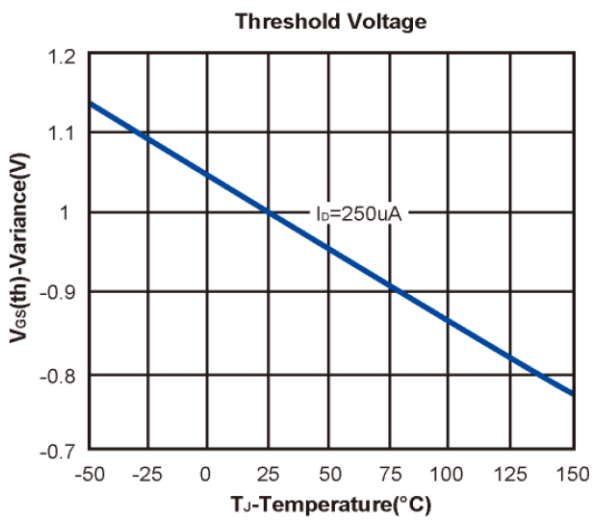
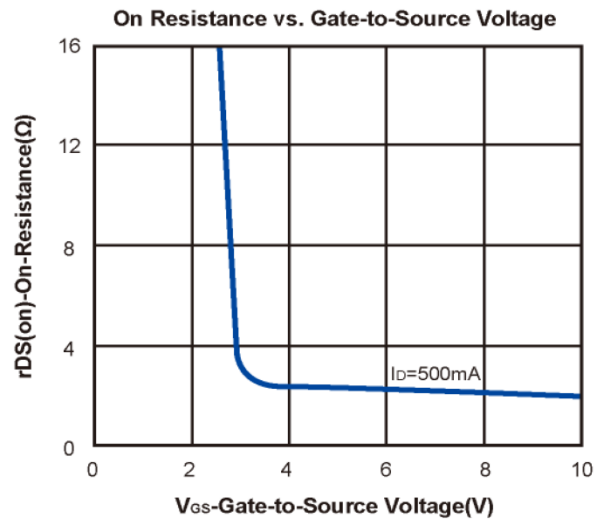
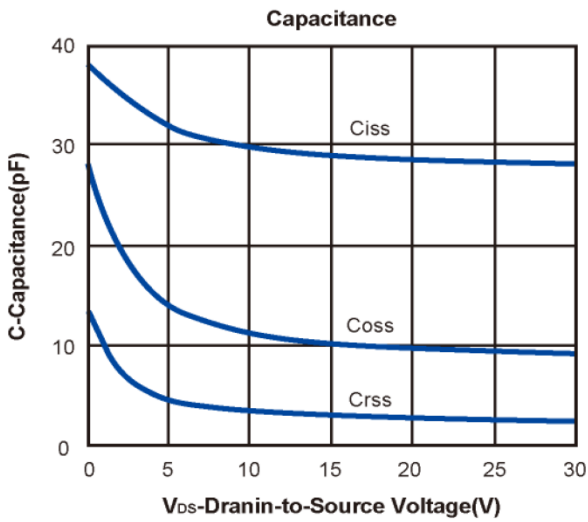
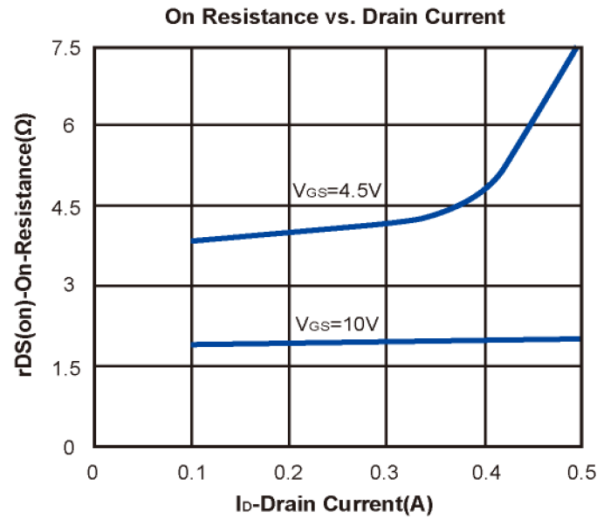
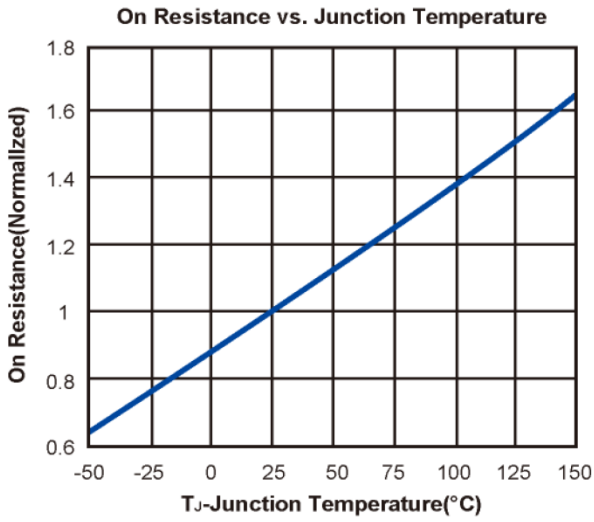
Absolute Maximum Ratings ($T_A=25^{\circ}C$ unless otherwise noted)

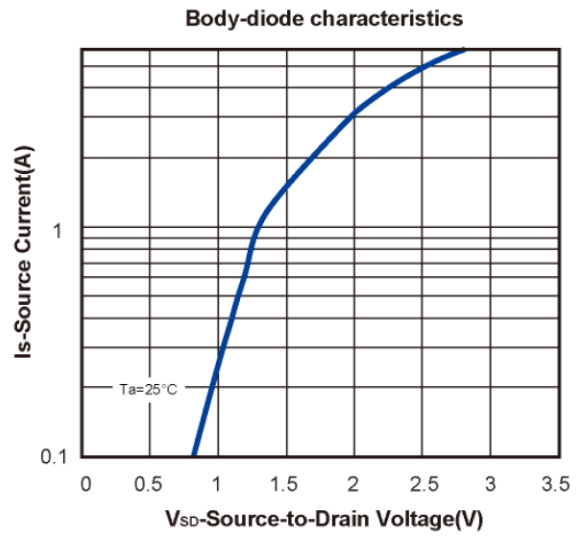
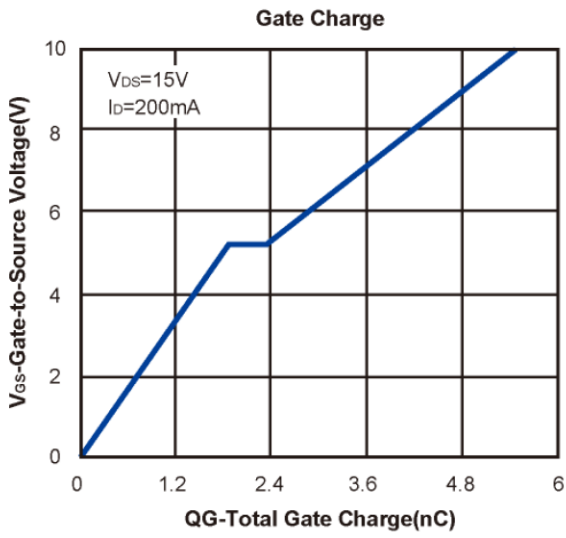
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	340	mA
Power Dissipation	P_D	0.35	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55~ +150	°C

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

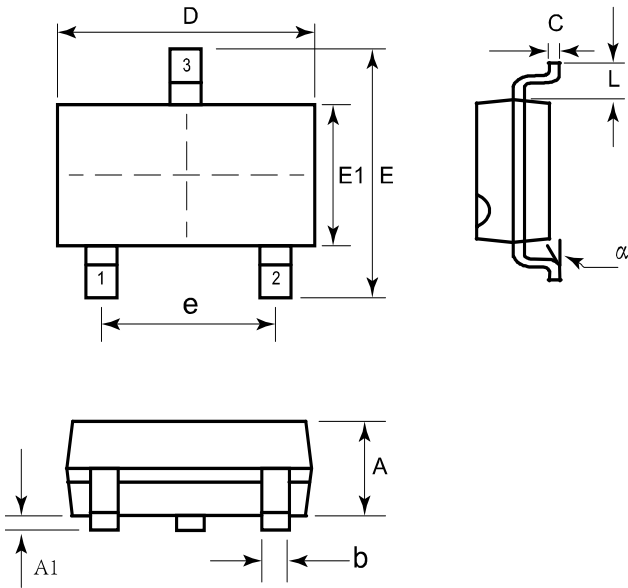
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	60			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1		2.5	V
Gate-Body Leakage	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 10	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V, V_{GS}=0V$			1	μA
Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=500mA$			3	Ω
		$V_{GS}=4.5V, I_D=200mA$			4	
		$V_{GS}=3V, I_D=10mA$			4.5	
Diode Forward Voltage	V_{SD}	$I_S=200mA, V_{GS}=0V$		0.82	1.3	V
Dynamic characteristics						
Total Gate Charge	Qg	$V_{DS}=15V, V_{GS}=4.5V, I_D=200mA$		1.5		nC
Gate-Source Charge	Qgs			1.9		
Gate-Drain Charge	Qgd			0.4		
Input Capacitance	Ciss	$V_{DS}=25V, V_{GS}=0V, f=1MHz$		28		pF
Output Capacitance	Coss			9		
Reverse Transfer Capacitance	Crss			2		
Switching Characteristics						
Turn-On Delay Time	td(on)	$V_{DD}=30V, R_L=150\Omega$ $I_D=200mA, V_{GEN}=10V,$ $R_G=10\Omega$		8.5		ns
Turn-On Rise Time	tr			6		
Turn-Off Delay Time	td(off)			31.8		
Turn-Off Fall Time	tf			15.5		

Typical Characteristics



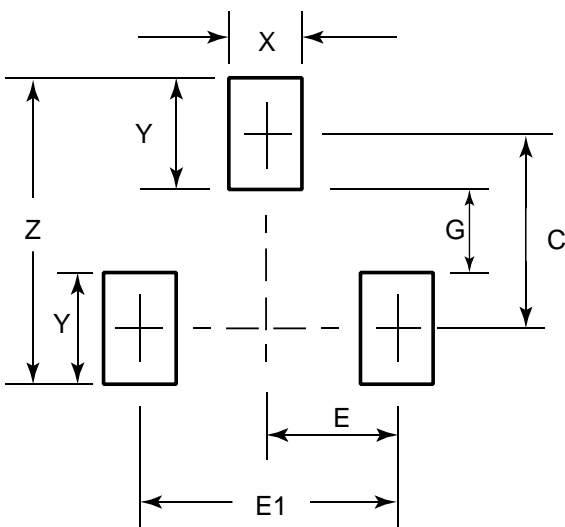


SOT-23 Package Outline Drawing



SYM	DIMENSIONS					
	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.035	0.037	0.040	0.88	0.95	1.02
A1	0.000	-	0.004	0.01	-	0.10
b	0.012	-	0.020	0.30	-	0.51
C	0.003	-	0.007	0.08	-	0.18
D	0.110	0.114	0.120	2.80	2.90	3.04
E	0.082	0.093	0.104	2.10	2.37	2.64
E1	0.047	0.051	0.055	1.20	1.30	1.40
e	0.075 BSC			1.90 BSC		
L	0.022 BSC			0.55 BSC		
α	0°		8°	0°		8°

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
C	2.20	0.087
E	0.95	0.037
E1	1.90	0.075
G	0.80	0.031
X	1.00	0.039
Y	1.40	0.055
Z	3.60	0.141