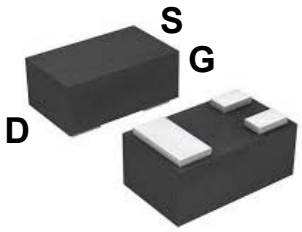
TVMNG30H

60V N-Channel MOSFET



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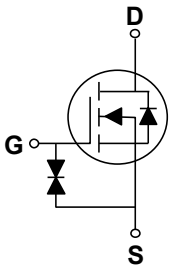


Features

- $R_{DS(ON)}$ ≦3Ω@V_{GS}=10V
- $R_{DS(ON)}$ ≦4Ω@V_{GS}=4.5V
- High Density Cell Design For Ultra Low On-Resistance
- Very Low Leakage Current In Off Condition
- ESD Protected 2KV HBM

Mechanical Data

- Case：SOT-883
- Marking：X1

Ordering Information

Part No.	Remark	Package
TVMNG30H	General	SOT-883
TVMNG30H-H	Halogen Free	

Maximum Ratings (TA=25°C unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DSS}	60	V
Gate-Source Voltage	V_{GSS}	±20	V
Continuous Drain	I_D	300	mA
Pulsed Drain Current (NOTE 1)	I_{DM}	1.8	A
Power Dissipation	P_D	350	mW
Junction and Storage Temperature Range	T_J , T_{STG}	-55~150	°C
Typical Thermal Resistance	$R_{\theta JA}$	357	°C/W

NOTE：

1.Maximum DC current limited by the package

2.Pulse test：pulse width≦ 300us, duty cycle≦ 2.0%.

Electrical Characteristics (TA=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Static						
Drain-source breakdown voltage	V_{GS}=0V, I_D=10μA	$V_{(BR)DSS}$	60	-	-	V
Gate-threshold voltage	V_{DS}=V_{GS}, I_D=250uA	$V_{GS(th)}$	1.1	-	1.6	V
Drain-Source On-Resistance	V_{GS}=5V, I_D=50mA	$R_{DS(on)}$	-	-	2.8	Ω
	V_{GS}=4.5V, I_D=200mA		-	-	4.0	
	V_{GS}=10V, I_D=500mA		-	-	3.0	
Zero gate voltage drain current	V_{DS}=60V, V_{GS}=0V	I_{DSS}	-	-	1	uA
Gate-source leakage current	V_{DS}=0V, V_{GS} =±20V	I_{GSS}	-	-	±10	uA
Forward Transconductance	V_{DS}=15V , I_D=250mA	gfs	100	-	-	mS
Dynamic Characteristics						
Total Gate Charge	V_{DS} = 15V, V_{GS} =5V, I_D=200mA	Q_g	-	-	0.8	nC
Turn-On Time	V_{DD}=30V, R_L=150Ω, I_D=200mA , V_{GEN}=10V, R_G=10Ω	$t_{d(on)}$	-	-	20	ns
Turn-Off Time		$t_{d(off)}$	-	-	40	
Input capacitance	V_{DS} = 25V, V_{GS} =0V, f = 1MHz	Ciss	-	-	35	pF
Output capacitance		Coss	-	-	12	
Reverse transfer capacitance		Crss	-	-	7	
Source-Drain Diode						
Diode Forward Voltage	V_{GS}=0V , I_S=200mA	V_{SD}	-	0.82	1.3	V
Continuous Source Current		I_S	-	-	300	mA

Characteristics Curves

FIG. 1-Output Characteristics

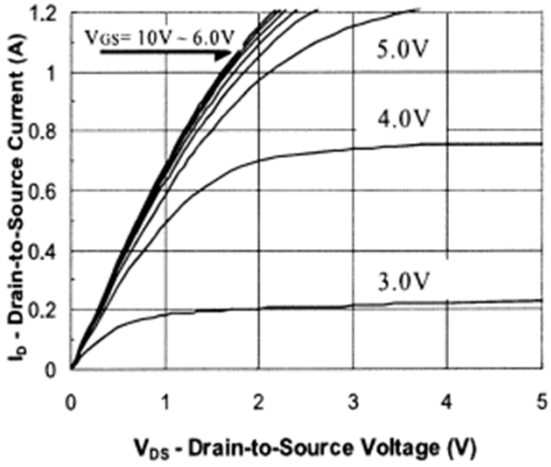


FIG. 2-Breakdown Voltage VS. Junction Temperature

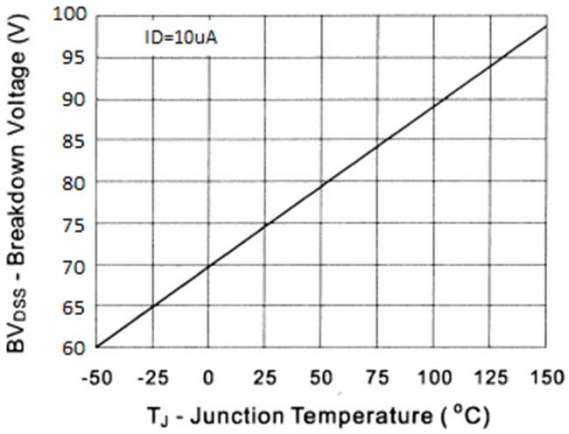


FIG. 3-On-Resistance VS. Drain Current

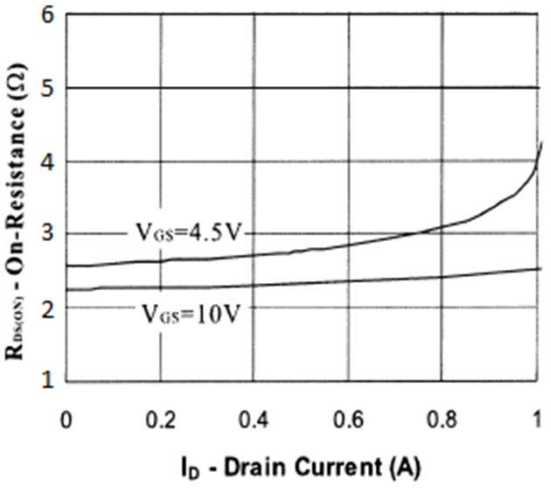


FIG. 4-On-Resistance VS. Gate-Source voltage

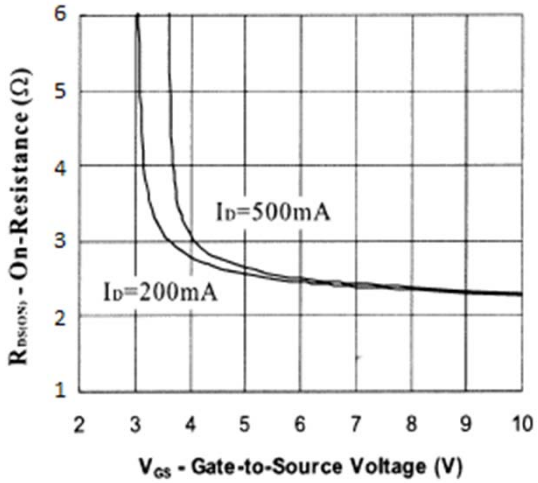


FIG. 5-On-Resistance VS. Junction Temperature

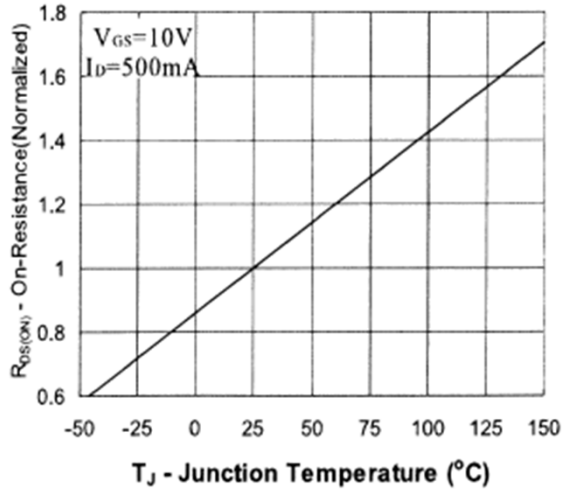
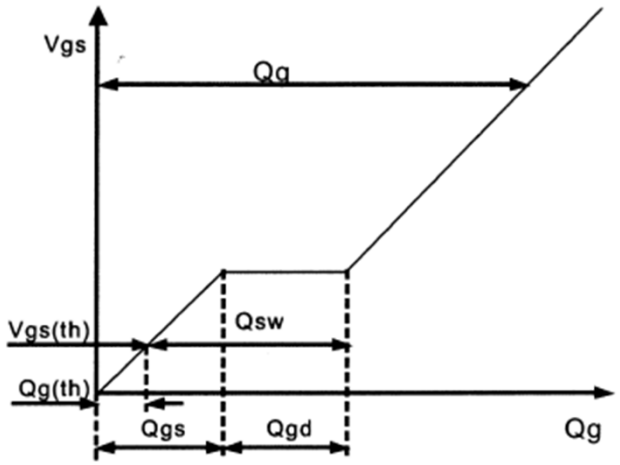


FIG. 6-Gate Charge Waveform



Characteristics Curves

FIG. 7-Gate Charge

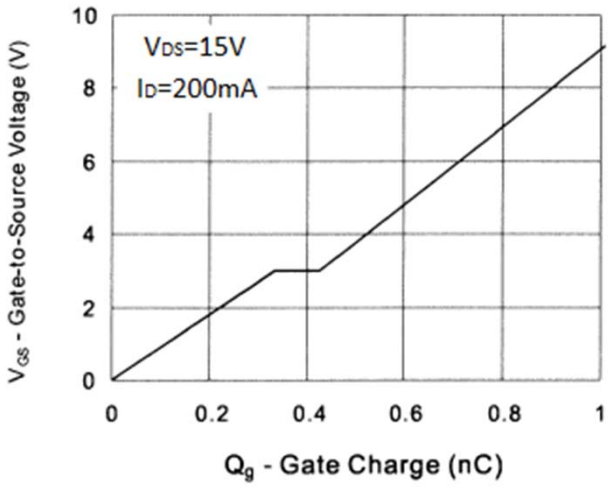


FIG. 8-Threshold Voltage VS. Temperature

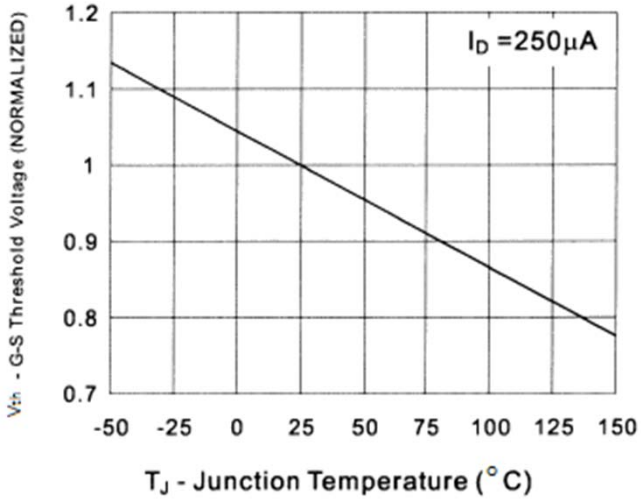


FIG. 9-Capacitance VS. Drain to Source Voltage

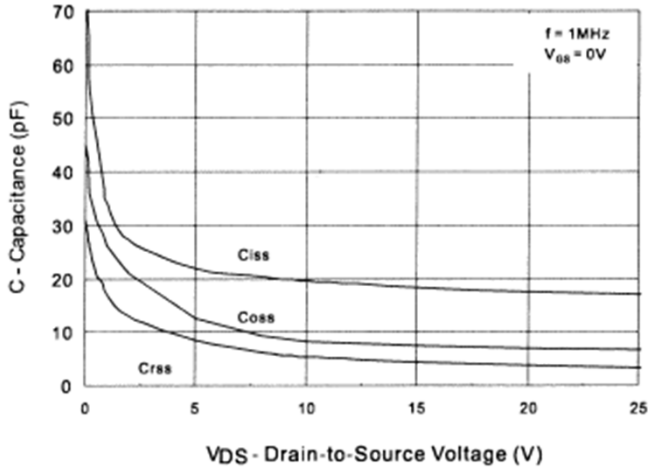
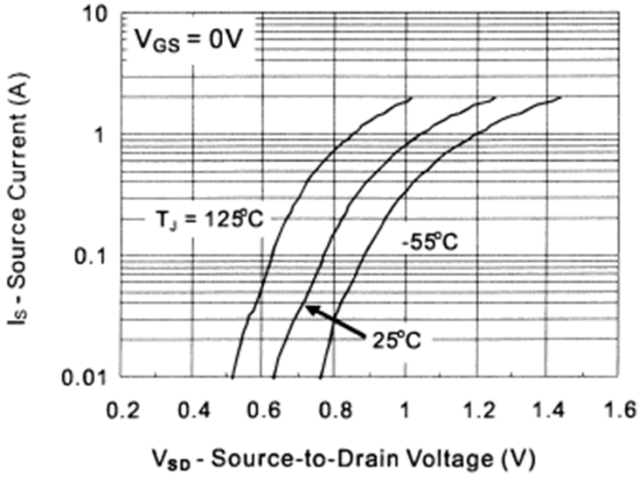
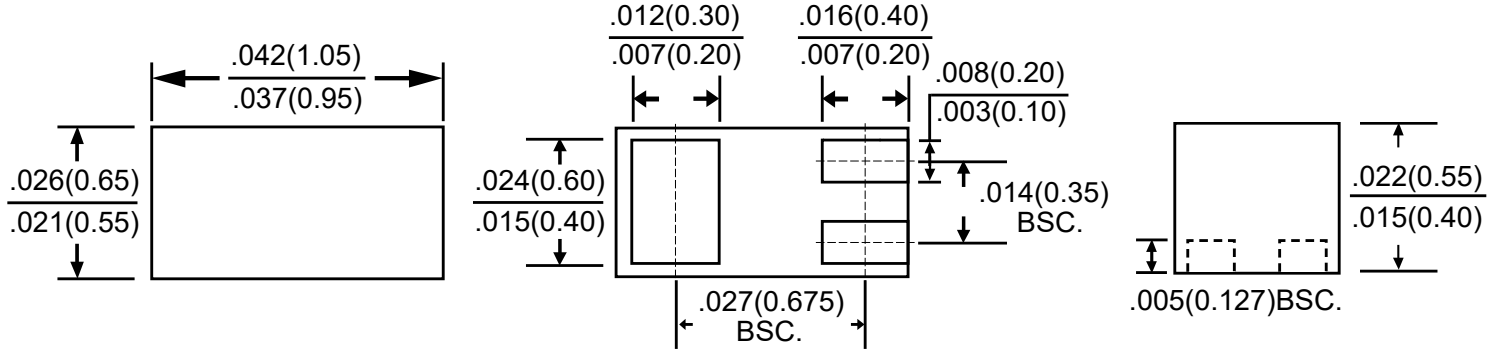


FIG. 10-Source-Drain Diode Forward Voltage



Package Outline Dimensions



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Dimensions in inches and (millimeters)

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