

HM2380

P-Channel Enhancement Mode MOSFET

➤ Features

VDS	VGS	RDSON Typ.	ID
-18V	±12V	21mR@-4V5	-6.5A
		26mR@-2V5	
		35mR@-1V8	
		45mR@-1V5	

➤ Description

This device uses advanced trench technology to provide excellent RDSON, low gate charge and operation with gate voltages as low as 1.5V and it is protected from ESD. These features make it suitable for use as a load switch or in PWM applications.

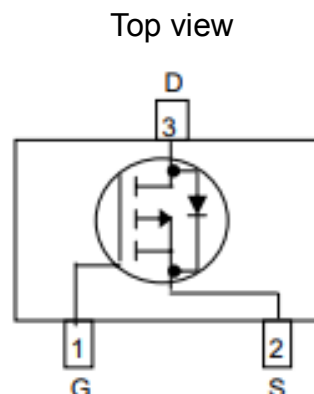
➤ Applications

- Load Switch
- Portable Devices
- DCDC conversion
- Charging
- Driver for Relay

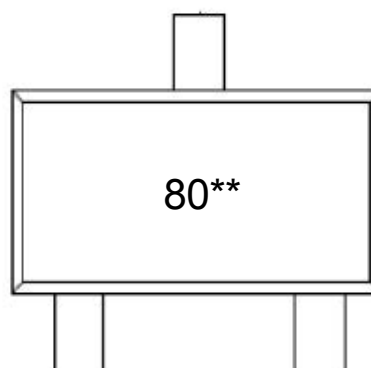
➤ Ordering Information

Device	Package	Shipping
HM2380	SOT23-3	3000/Reel

➤ Pin configuration



SOT23-3



Marking

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

Symbol	Parameter	Ratings	Unit
V_{DSS}	Drain-to-Source Voltage	-18	V
V_{GSS}	Gate-to-Source Voltage	± 12	V
I_D	Continuous Drain Current	-5.6	A
I_{DM}	Pulsed Drain Current	-24	A
P_D	Power Dissipation	1.4	W
T_J	Operation junction temperature	-55 to 150	$^{\circ}\text{C}$
T_{STG}	Storage temperature range	-55 to 150	$^{\circ}\text{C}$

➤ **Thermal Resistance Ratings**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Typical	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance		99	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		51	

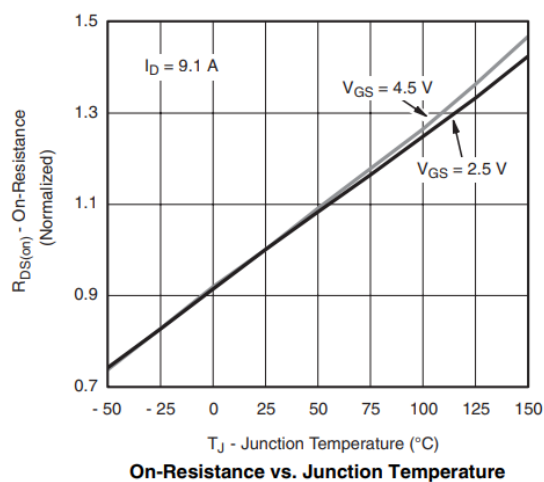
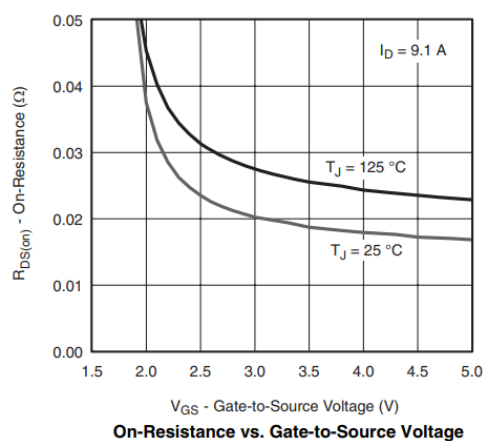
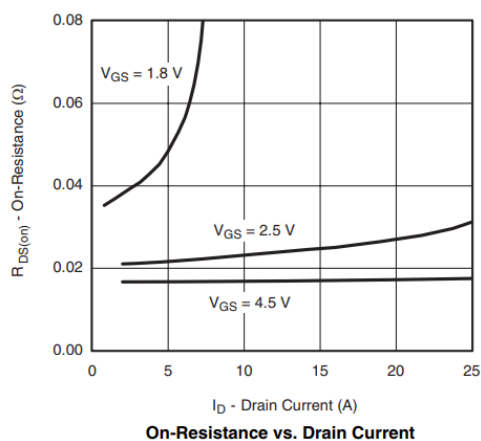
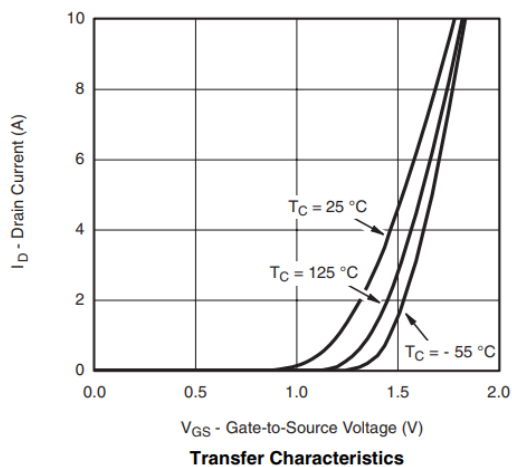
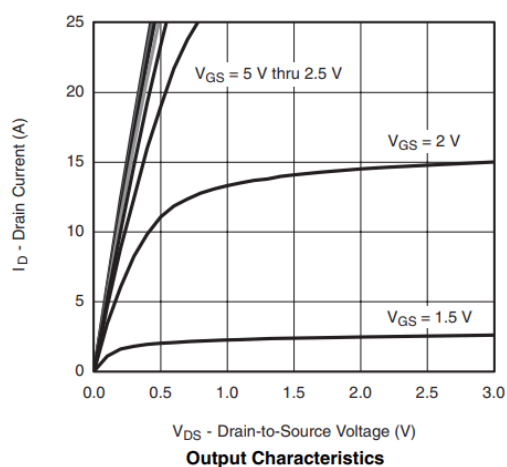
➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

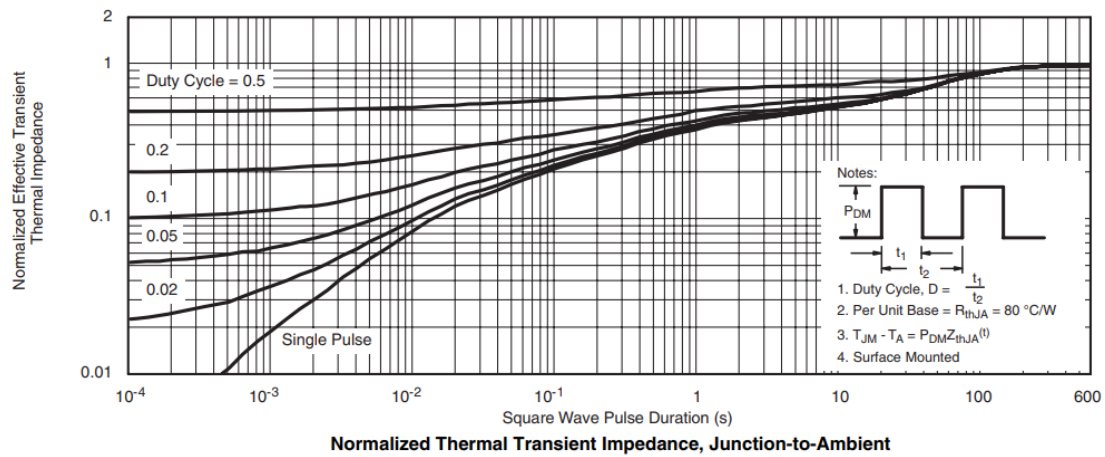
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu\text{A}$	-18			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=-250\mu\text{A}$	-0.4	-0.55	-0.8	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=-4.5V, I_D=-5.5A$		21	29	mR
		$V_{GS}=-2.5V, I_D=-2.5A$		26	39	
		$V_{GS}=-1.8V, I_D=-1.8A$		35	60	
		$V_{GS}=-1.5V, I_D=-1.5A$		45	90	

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=-20V, V_{GS}=0V$			-1	μA
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 12V, V_{DS}=0V$			± 100	nA
G_{FS}	Forward Transconductance	$V_{DS}=-5V, I_D=-5.5A$		23		S
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=-1A$		-0.75	-1.5	V

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
C_{iss}	Input Capacitance	$V_{DS}=-10V, V_{GS}=0V,$ $F=1MHz$		1970		pF
C_{oss}	Output Capacitance			205		
C_{rss}	Reverse Transfer Capacitance			195		
$T_{D(ON)}$	Turn-on delay time	$V_{GS}=-4.5V, I_D=-6.5A,$ $V_{DS}=-10V, R_G=6R$			16	ns
$T_{D(OFF)}$	Turn-off delay time				78	

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





➤ Package Information

