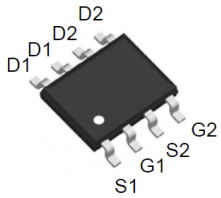
Features

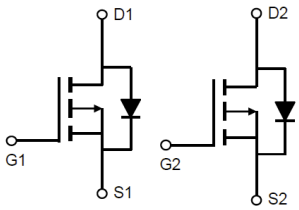
- Low RDS(on)@VGS=10V
- -5V Logic Level Control
- Trench MOSFET Technology
- Dual MOSFET Included
- Pb−Free, RoHS Compliant



SOP-8(Top View)

Application

- Load Switch
- Charger, Fast switch
- Power Management Applications



P-Channel MOSFET
(Dual)

Order Information

Product	Package	Marking	Shipping
XM8PD050Q03	SOP-8	050Q03L	3000PCS/Reel

Absolute Maximum Ratings

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Parameter	Symbol	Limits	Unit
Drain−to−Source Voltage	VDSS	-30	V
Gate−to−Source Voltage	VGS	±16	V
Drain Current (Single)(Note 1)Steady State (TA = 25°C)	ID	-4	A
(TA = 70°C)		-3.2	
Power Dissipation (Note 1) Steady State	PD	1.4	W
Pulsed Drain Current (Single)(tp = 10 μs)	IDM	-16	A
Operating Junction and Storage Temperature Range	TJ,TSTG	-55~+150	℃
Lead Temperature for Soldering Purposes (1/8″ from case for 10 s)	TL	260	℃
Junction−to−Ambient − Steady State (Note 1)	RθJA	80	℃/W

Note 1:

Surface−mounted on FR4 board using 1 inchsquarepad size (Cu area = 1.127 inch square [1 oz] including traces)

Electrical Characteristics

Characteristic		Symbol	Min.	Typ.	Max.	Unit
STATIC CHARACTERISTICS						
Drain-Source Breakdown Voltage (VGS =0V, ID =250μA)		VDSS	-30	-	-	V
Gate Threshold Voltage (VDS =VGS , ID =250μA)		VGS(th)	-0.5	-	-1.2	V
Gate-Body Leakage Current (VDS =0V, VGS =±16V)		IGSS	-	-	± 100	nA
Zero Gate Voltage Drain Current (VDS =-24V, VGS =0V)		IDSS	-	-	-100	μA
Drain-Source On-Resistance (Note 2) (VGS =-10V, ID = -4A)		RDS(ON)	-	44	60	mΩ
Drain-Source On-Resistance (Note 2) (VGS =-4.5V, ID = -4A)				52	65	mΩ
Drain-Source On-Resistance (Note 2) (VGS =-3.3V, ID = -3A)			-	58	80	mΩ
Diode Forward Voltage (IS =300mA, VGS =0V)		VSD	-	-	-1.2	V
DYNAMIC PARAMETERS						
Total Gate Charge	VDS =-15V, VGS =-4.5V, ID=-4A	Qg		7.2		nC
Gate-Source Charge		Qgs		1.5		
Gate-Drain Charge		Qgd		2.6		
Input Capacitance	VDS =-15V, VGS =0V,f=1MHz	Ciss		655		pF
Output Capacitance		Coss		65		
Reverse Transfer Capacitance		Crss		53		
Turn-On Delay Time	VDS =-15V ID=-2A VGS=-10V RG =3.3Ω	td(on)		7		nS
Rise Time		tr		3.8		
Turn-Off Delay Time		td(off)		35		
Fall Time		tf		10.5		

Note 2:

Pulse test; pulse width≤300μs, duty cycle≤2%

Typical Characteristics

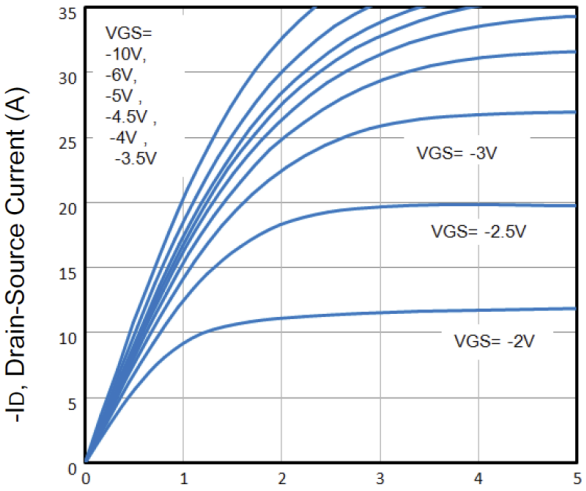


Fig1. Typical Output Characteristics

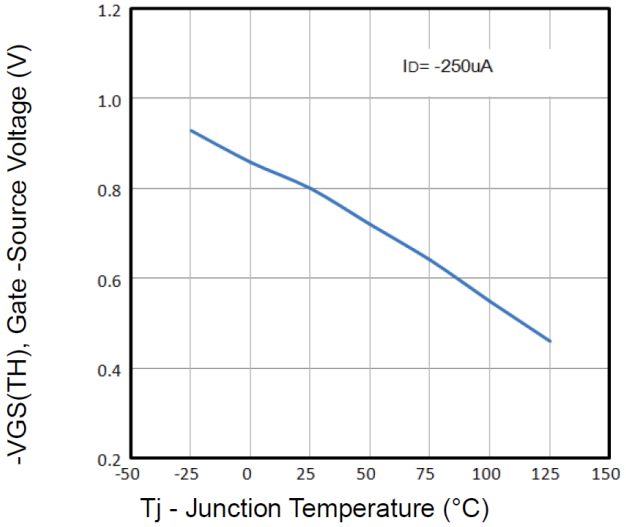


Fig2. Normalized Threshold Voltage Vs. Temperature

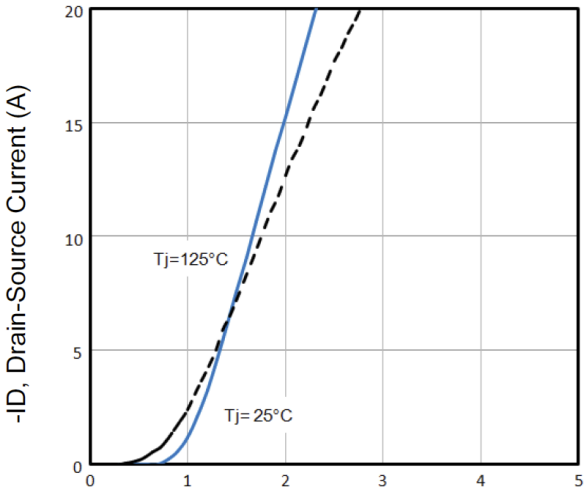


Fig3. Typical Transfer Characteristics

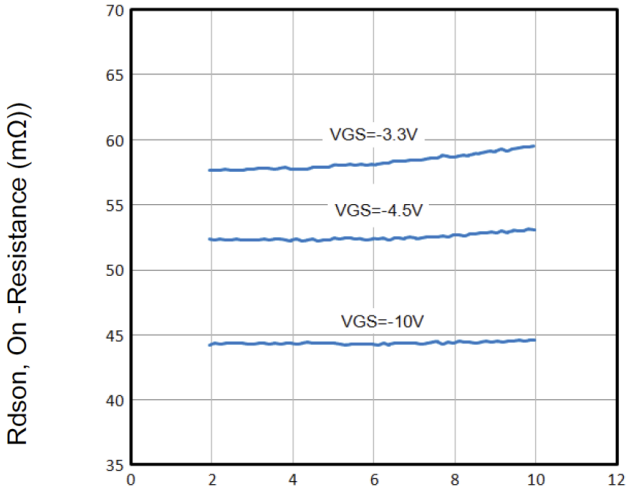


Fig4. On-Resistance vs. Drain Current and Gate

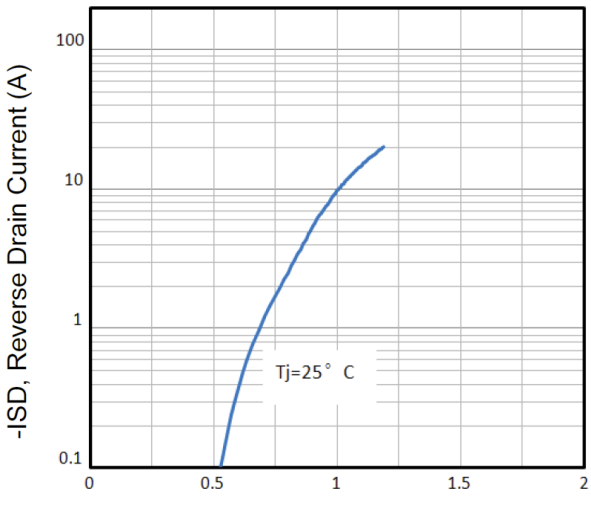


Fig5. Typical Source-Drain Diode Forward Voltage

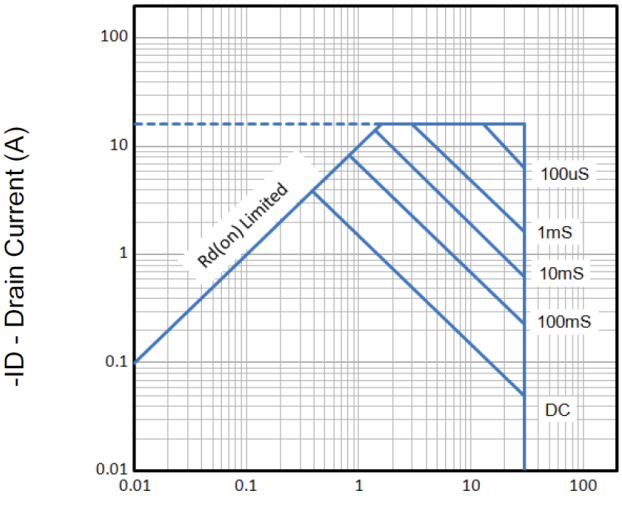


Fig6. Maximum Safe Operating Area

Typical Characteristics

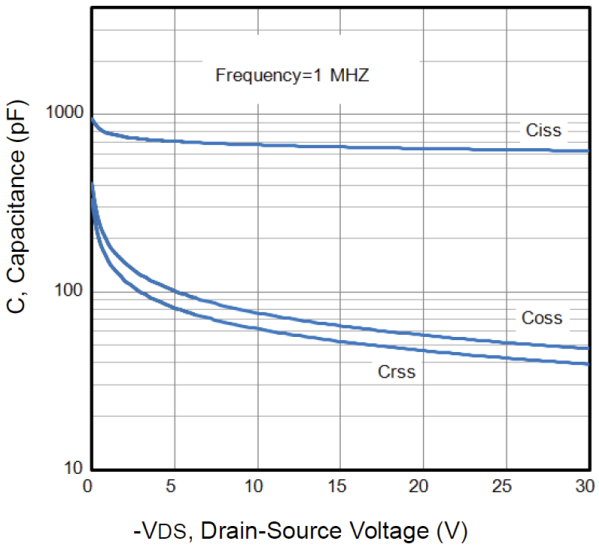


Fig7. Typical Capacitance Vs. Drain-Source Voltage

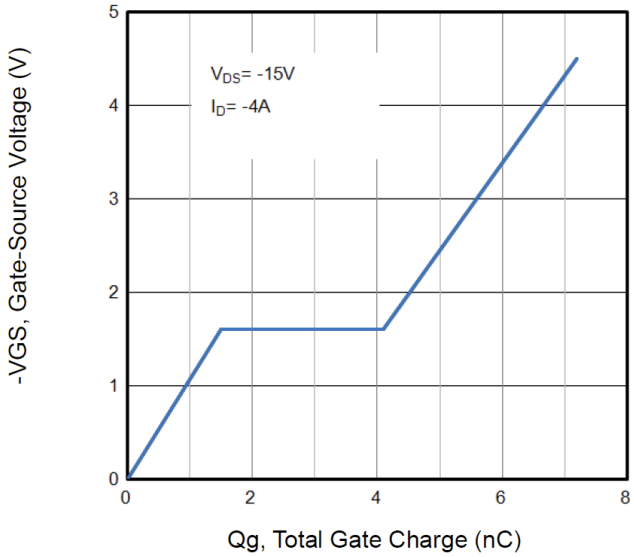


Fig8. Typical Gate Charge Vs. Gate-Source Voltage

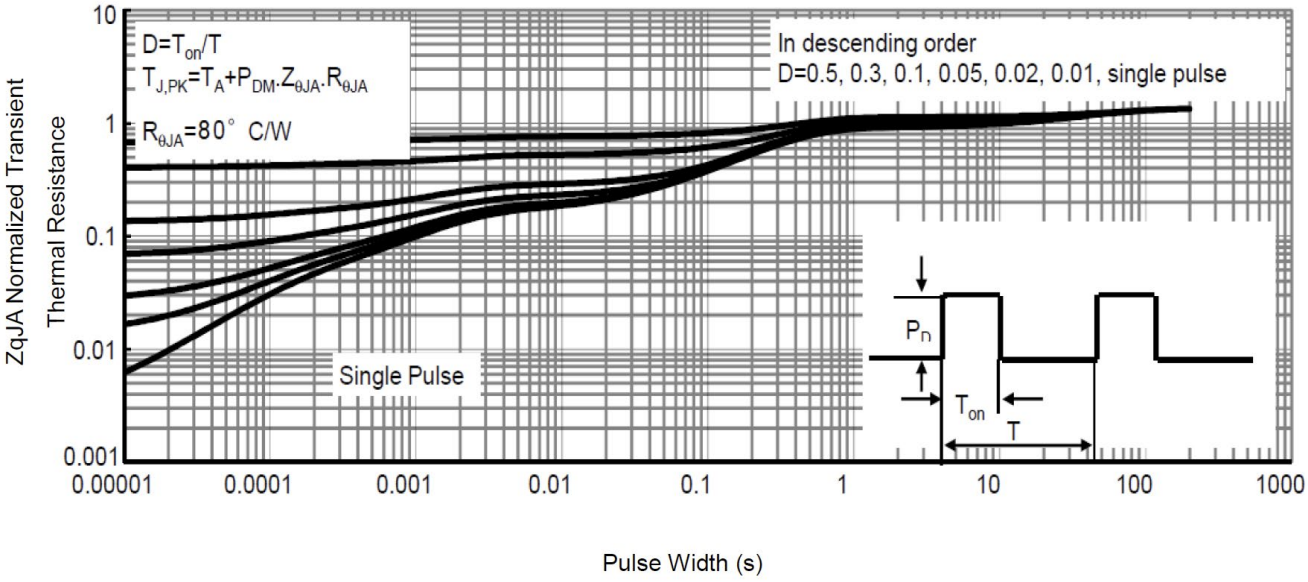


Fig9. Normalized Maximum Transient Thermal Impedance

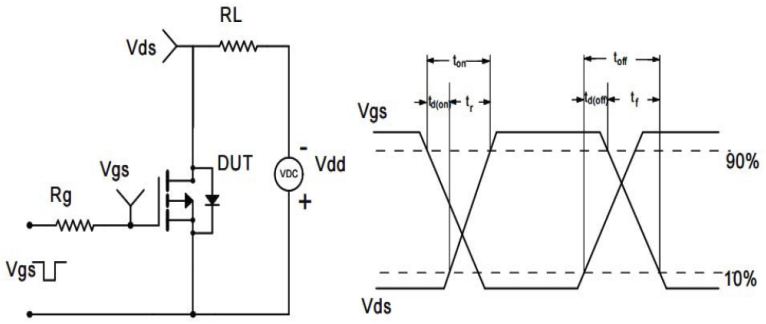
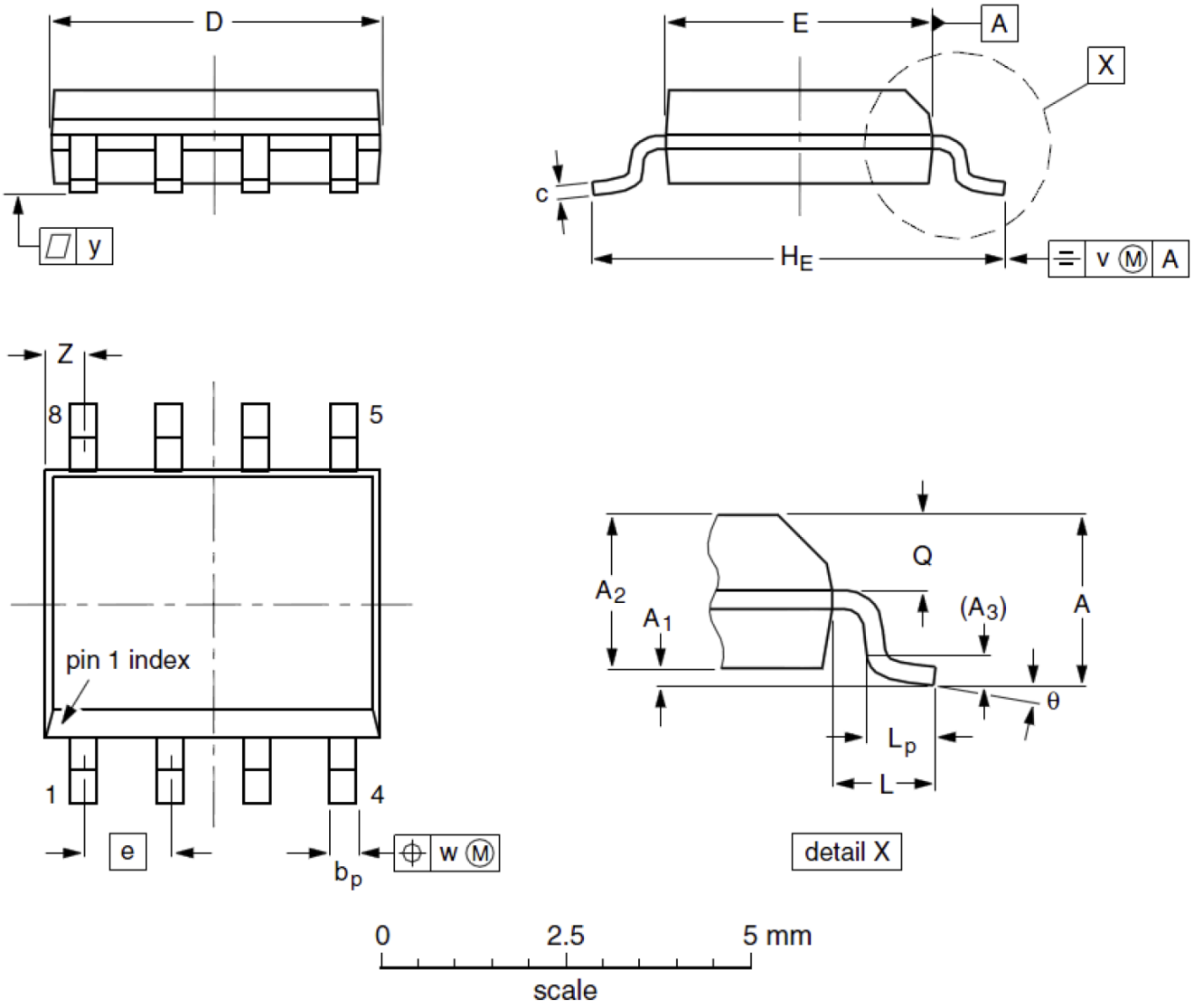


Fig10. Switching Time Test Circuit and waveforms

Outline and Dimensions（SOP-8）



DIMENSIONS (unit : mm)

Symbol		Typ	Max	Symbol	Min	Typ	Max
A	--	1.75	--	**A_1**	0.10	0.18	0.25
A_2	1.25	1.35	1.45	**A_3**	--	0.25	--
b_p	0.36	0.42	0.49	**c**	0.19	0.22	0.25
D	4.80	4.92	5.00	**E**	3.80	3.90	4.00
e	--	1.27	--	**H_E**	5.80	5.98	6.20
L	--	1.05	--	**L_p**	0.40	0.68	1.00
Q	0.60	0.65	0.70	**v**	--	0.25	--
w	--	0.25	--	**y**	--	0.10	--
Z	0.30	0.50	0.70	**θ**	0°		8°

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