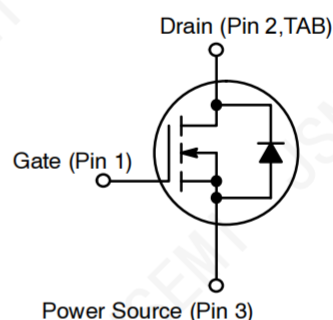
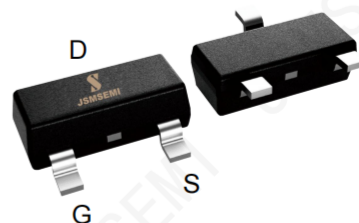


Product Summary

- V_{DS} 30V
- I_D 6.0A
- $R_{DS(ON)}$ (at $V_{GS}=10V$) $<30m\Omega$
- 100% EAS Tested
- 100% ∇V_{DS} Tested

General Description

- Trench Power MOSFET technology
- Excellent package for heat dissipation
- High density cell design for low $R_{DS(ON)}$
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free



Applications

- Power switching application
- Uninterruptible power supply
- DC-DC convertor
- Motor drivers

Absolute Maximum Ratings (T_J=25°C unless other wise noted)

Symbol	Parameter		Typical	Unit
V _{DSS}	Drain-Source Voltage		30	V
V _{GSS}	Gate-Source Voltage		±20	V
I _D	Continuous Drain Current (T _C =25℃)	V _{GS} =10V	6.0	A
	Continuous Drain Current (T _C =70℃)		5.0	
I _{DM}	Pulsed Drain Current		20	A
I _S	Continuous Source Current (Diode Conduction)		1.5	A
P _D	Power Dissipation	T _A =25℃	1.5	W
		T _A =70℃	0.9	
T _J	Operation Junction Temperature		150	℃
T _{STG}	Storage Temperature Range		-55~+150	℃
R _{θJA}	Thermal Resistance Junction to Ambient		90	℃/W

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress rating only and functional device operation is not implied

Ordering Information

Order number	Package	Marking	Operation Temperature Range	MSL Grade	Ship, Quantity	Green
PMV45EN2R-JSM	SOT-23-3L	X4HV	-55 to 150°C	1	T&R, 3000	Rohs

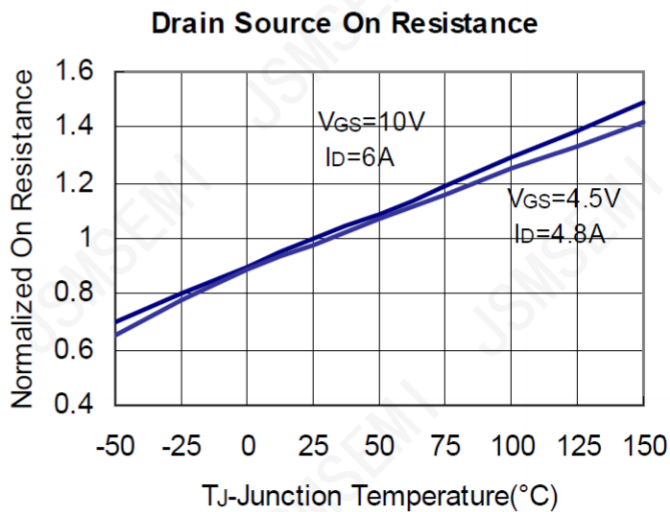
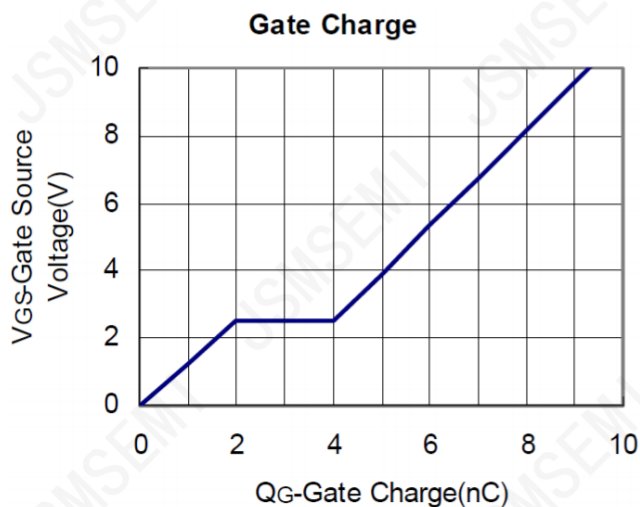
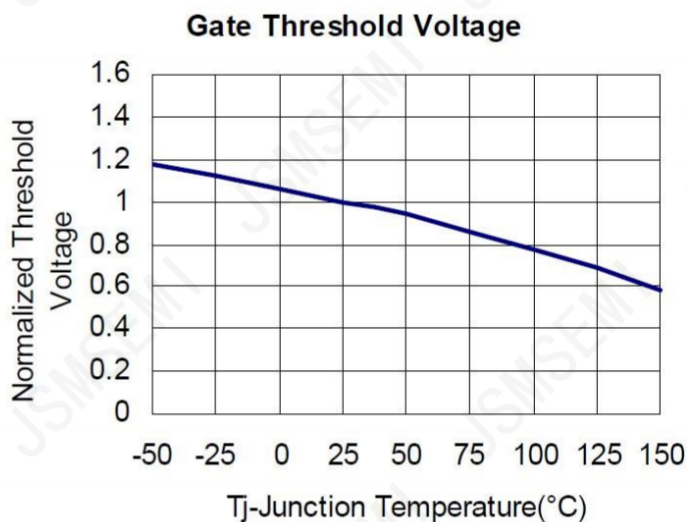
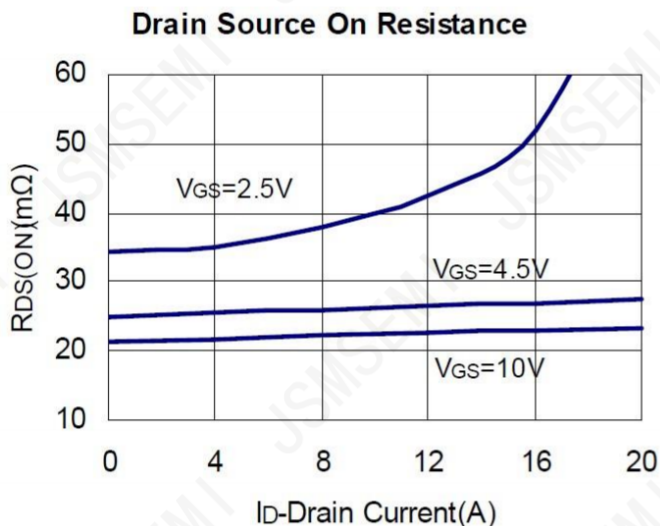
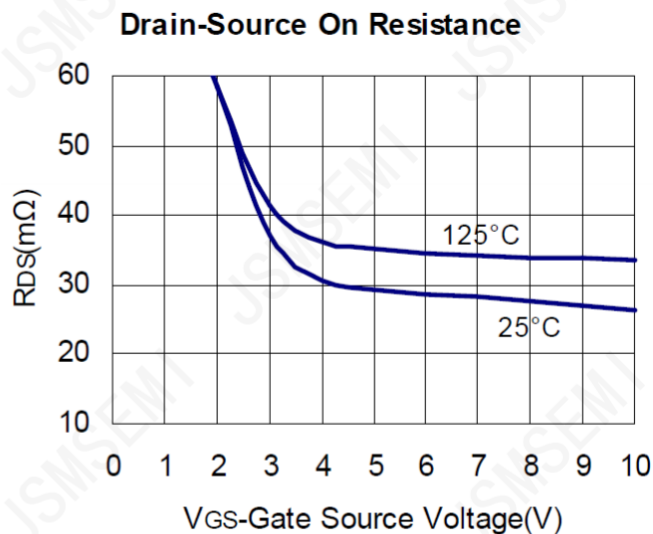
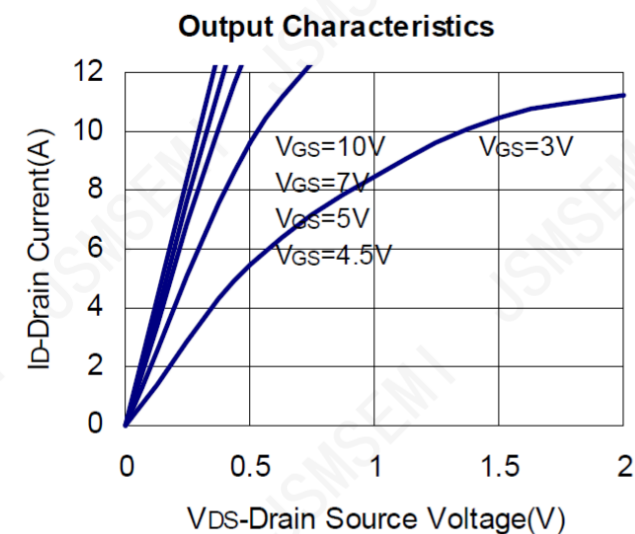
Electrical Characteristics (T_J=25°C unless other wise noted)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Parameters						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	30			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250uA	1		2	V
I _{GSS}	Gate Leakage Current	V _{DS} =0V, V _{GS} =±20V			±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =24V, V _{GS} =0			1	uA
		V _{DS} =24V, V _{GS} =0 T _J =55℃			5	
R _{DS(ON)}	Drain-Source On-Resistance	V _{GS} =10V, I _D =6.0A		18	30	mΩ
		V _{GS} =4.5V, I _D =4.8A		25	40	
Source-Drain Diode						
V _{SD}	Diode Forward Voltage	I _S =1.0A, V _{GS} =0V		0.7	1.0	V
Dynamic Parameters						
Q _g	Total Gate Charge	V _{DS} =20V V _{GS} =4.5V I _D =6.0A		6		nC
Q _{gs}	Gate-Source Charge			1.1		
Q _{gd}	Gate-Drain Charge			2.5		
C _{iss}	Input Capacitance	V _{DS} =15V V _{GS} =0V f=1MHz		414		pF
C _{oss}	Output Capacitance			60		
C _{rss}	Reverse Transfer Capacitance			49		
T _{d(on)}	Turn-On Time	V _{DS} =15V I _D =5A V _{GEN} =10V R _G =3.3Ω		7.5		nS
T _r				45		
T _{d(off)}	Turn-Off Time			10		
T _f			4			

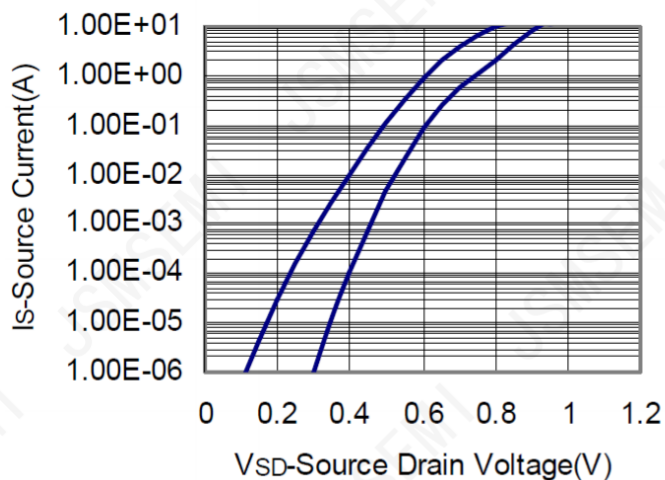
Note: 1. Pulse test: pulse width ≤ 300uS, duty cycle ≤ 2%

2. Static parameters are based on package level with recommended wire bonding

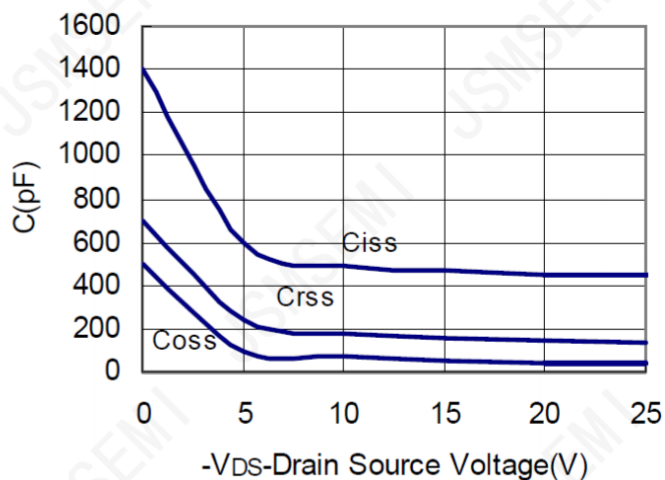
Typical Characteristics (TA=25°C unless otherwise noted)



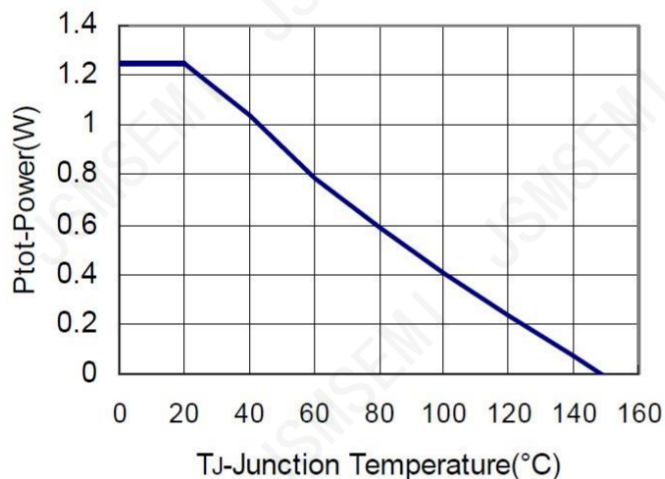
Source Drain Diode Forward



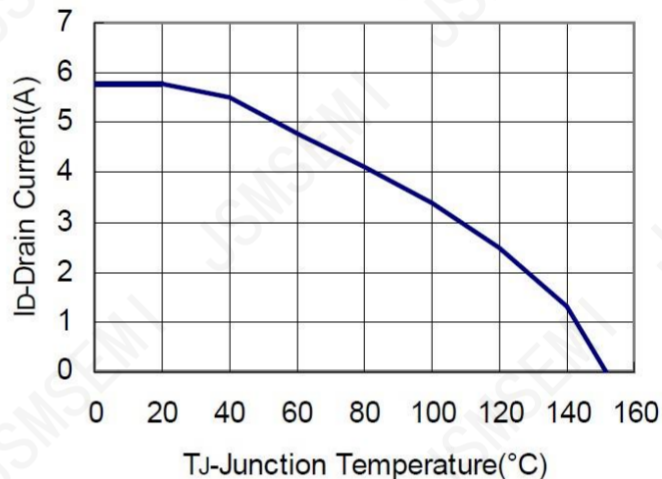
Capacitance



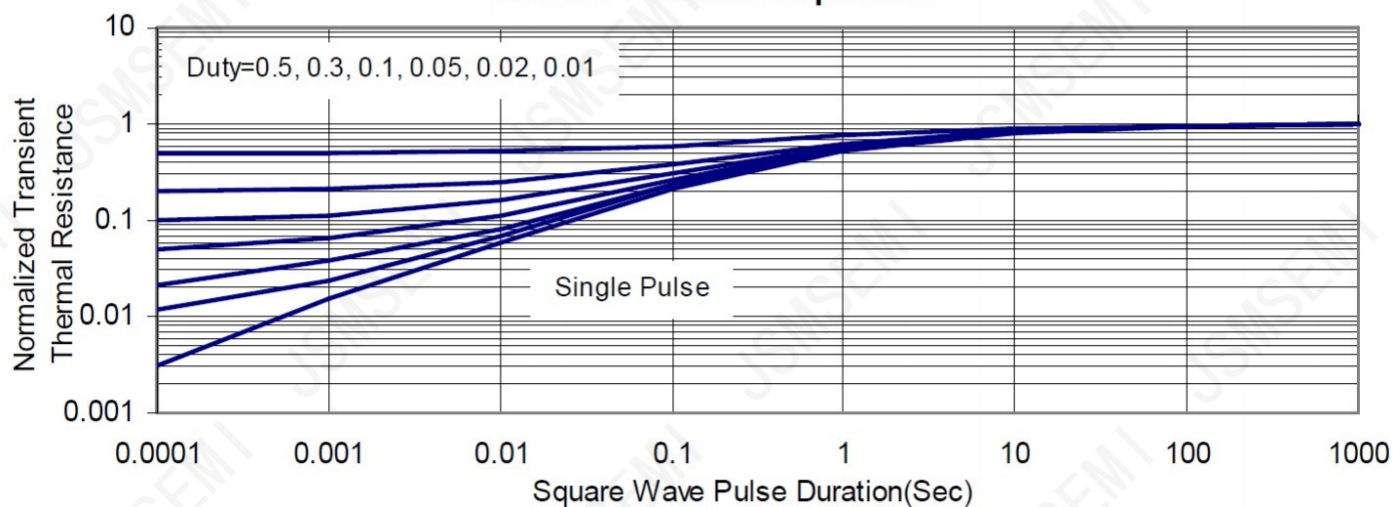
Power Dissipation



Drain Current

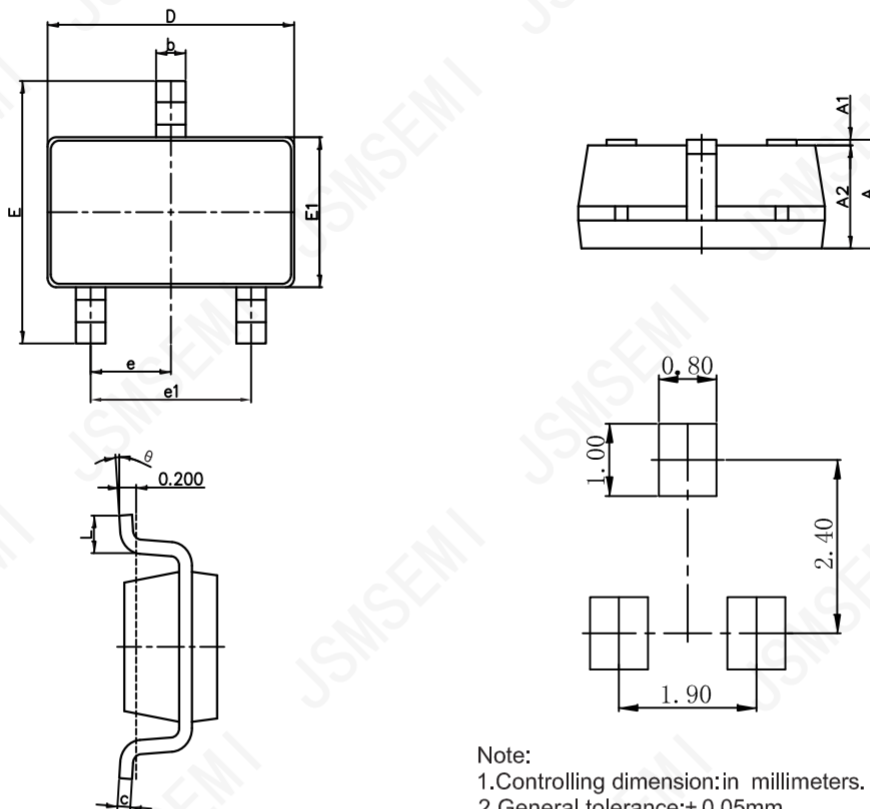


Thermal Transient Impedance



Package Information

SOT-23-3L



Note:
1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	2.650	2.950	0.104	0.116
E1	1.500	1.700	0.059	0.067
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

Revision History

Rev.	Change	Date
V1.0	Initial version	2/23/2024

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