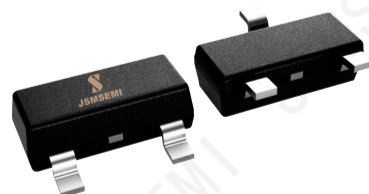


DESCRIPTION

The PMV65XP,215-JSM is the P-Channel logic enhancement mode power field effect transistor is produced using high cell density advanced trench technology..

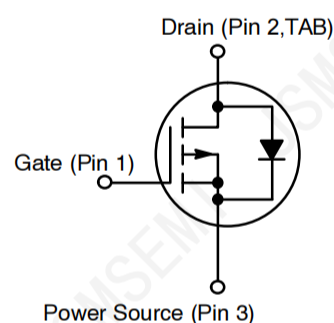
This high density process is especially tailored to minimize on-state resistance. These devices are particularly suited for low voltage application, and low in-line power loss are needed in a very small outline surface mount package.

ESD Protected : 3KV



FEATURE

- ◆ -20V/-4.3A, $R_{DS(ON)}=34m\Omega$ (typ.)@ $V_{GS}=-4.5V$
- ◆ -20V/-3.0A, $R_{DS(ON)}=44m\Omega$ (typ.)@ $V_{GS}=-2.5V$
- ◆ -20V/-2.0A, $R_{DS(ON)}=56m\Omega$ (typ.)@ $V_{GS}=-1.8V$
- ◆ Super high design for extremely low $R_{DS(ON)}$
- ◆ Exceptional on-resistance and Maximum DC current capability
- ◆ Full RoHS compliance
- ◆ SOT23-3L package design



APPLICATIONS

- ◆ Power Management
- ◆ Portable Equipment
- ◆ DC/DC Converter
- ◆ Load Switch
- ◆ DSC
- ◆ LCD Display inverter

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

Symbol	Parameter		Typical	Unit
V _{DSS}	Drain-Source Voltage		-20	V
V _{GSS}	Gate-Source Voltage		±10	V
I _D	Continuous Drain Current (T _C =25℃)	V _{GS} =-4.5V	-4.3	A
	Continuous Drain Current (T _C =70℃)		-3.0	A
I _{DM}	Pulsed Drain Current		-20	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		120	℃/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

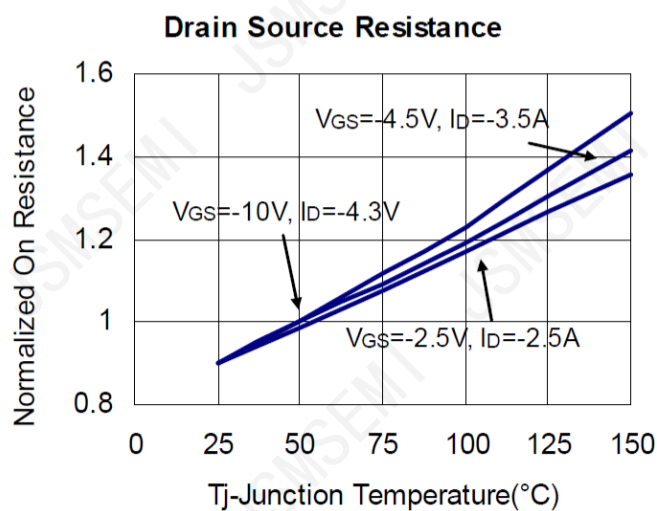
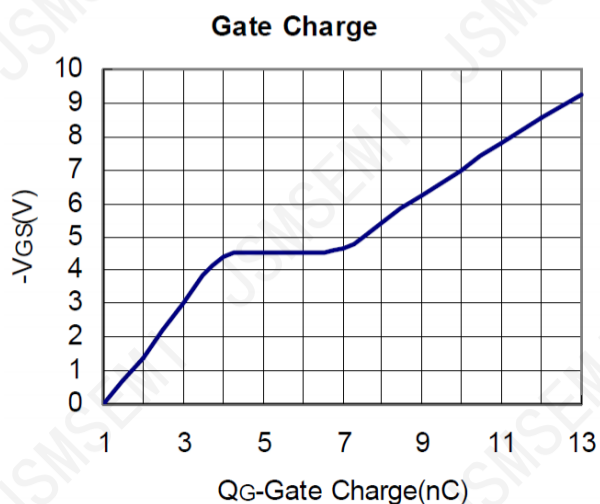
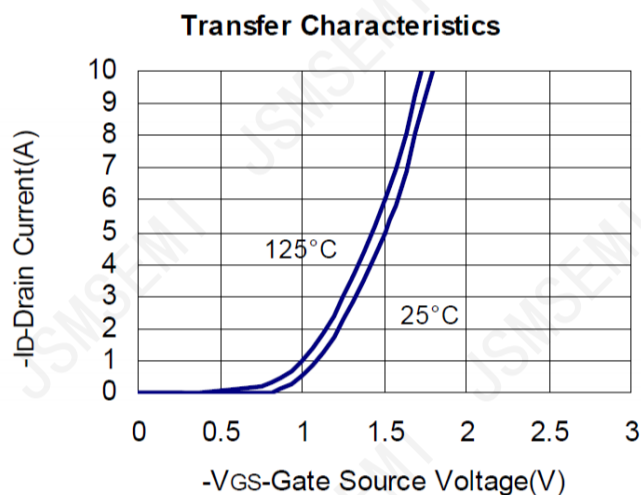
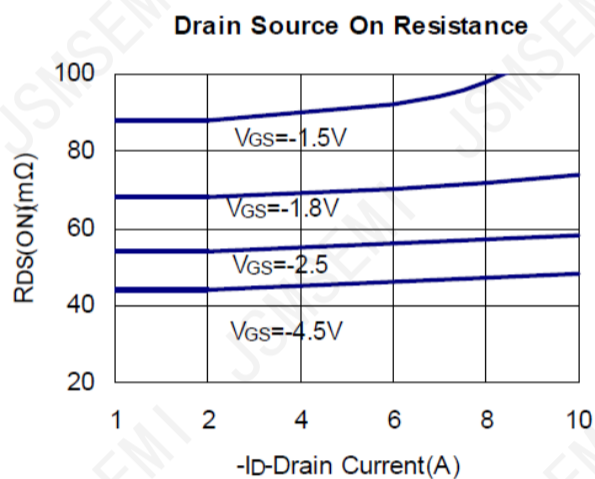
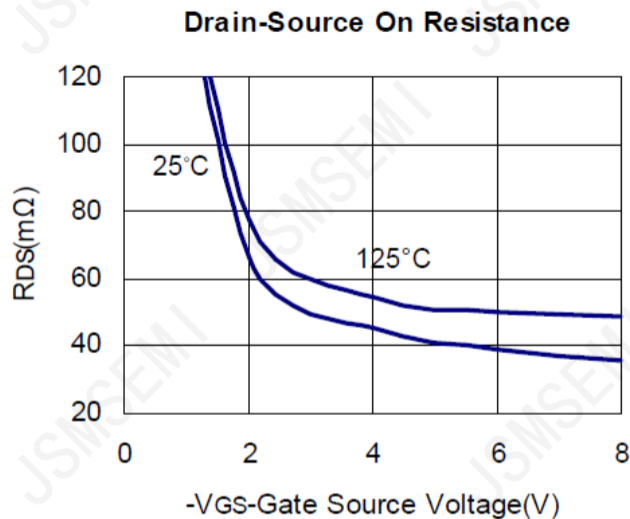
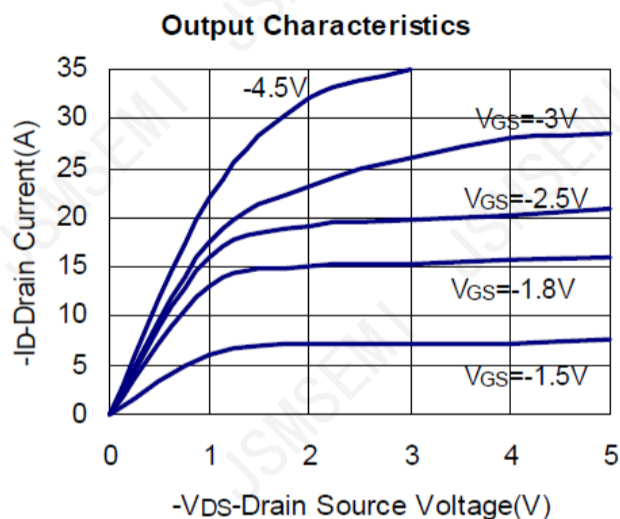
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Parameters						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS} = 0\text{V}, I_D = -250\mu\text{A}$	-20			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = -250\mu\text{A}$	-0.6		-1.0	V
I_{GSS}	Gate Leakage Current	$V_{DS} = 0\text{V}, V_{GS} = \pm 10\text{V}$			± 10	μA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = -20\text{V}, V_{GS} = 0$			-1	μA
		$V_{DS} = -20\text{V}, V_{GS} = 0$ $T_J = 55^\circ\text{C}$			-5	
$R_{DS(ON)}$	Drain-Source On-Resistance	$V_{GS} = -4.5\text{V}, I_D = -4.3\text{A}$		34	44	$\text{m}\Omega$
		$V_{GS} = -2.5\text{V}, I_D = -3.0\text{A}$		44	52	
		$V_{GS} = -1.8\text{V}, I_D = -2.0\text{A}$		56	75	
		$V_{GS} = -1.5\text{V}, I_D = -1.0\text{A}$		85	110	
G_{fs}	Forward Transconductance	$V_{DS} = -5\text{V}, I_D = -4.0\text{A}$		22		S
Source-Drain Diode						
V_{SD}	Diode Forward Voltage	$I_S = -1.0\text{A}, V_{GS} = 0\text{V}$		-0.67	-1.2	V
Dynamic Parameters						
Q_g	Total Gate Charge	$V_{DS} = -10\text{V}$ $V_{GS} = -4.5\text{V}$ $I_D = -4.0\text{A}$		11.1		nC
Q_{gs}	Gate-Source Charge			3.1		
Q_{gd}	Gate-Drain Charge			2.4		
C_{iss}	Input Capacitance	$V_{DS} = -10\text{V}$ $V_{GS} = 0\text{V}$ $f = 1\text{MHz}$		989		pF
C_{oss}	Output Capacitance			167		
C_{rss}	Reverse Transfer Capacitance			75.5		
$T_{d(on)}$	Turn-On Time	$V_{DS} = -10\text{V}$ $I_D = -3.7\text{A}$		712		nS
T_r				1386		
$T_{d(off)}$	Turn-Off Time	$V_{GEN} = -4.$ $5V R_G = 1\Omega$		9.1		
T_f				4		

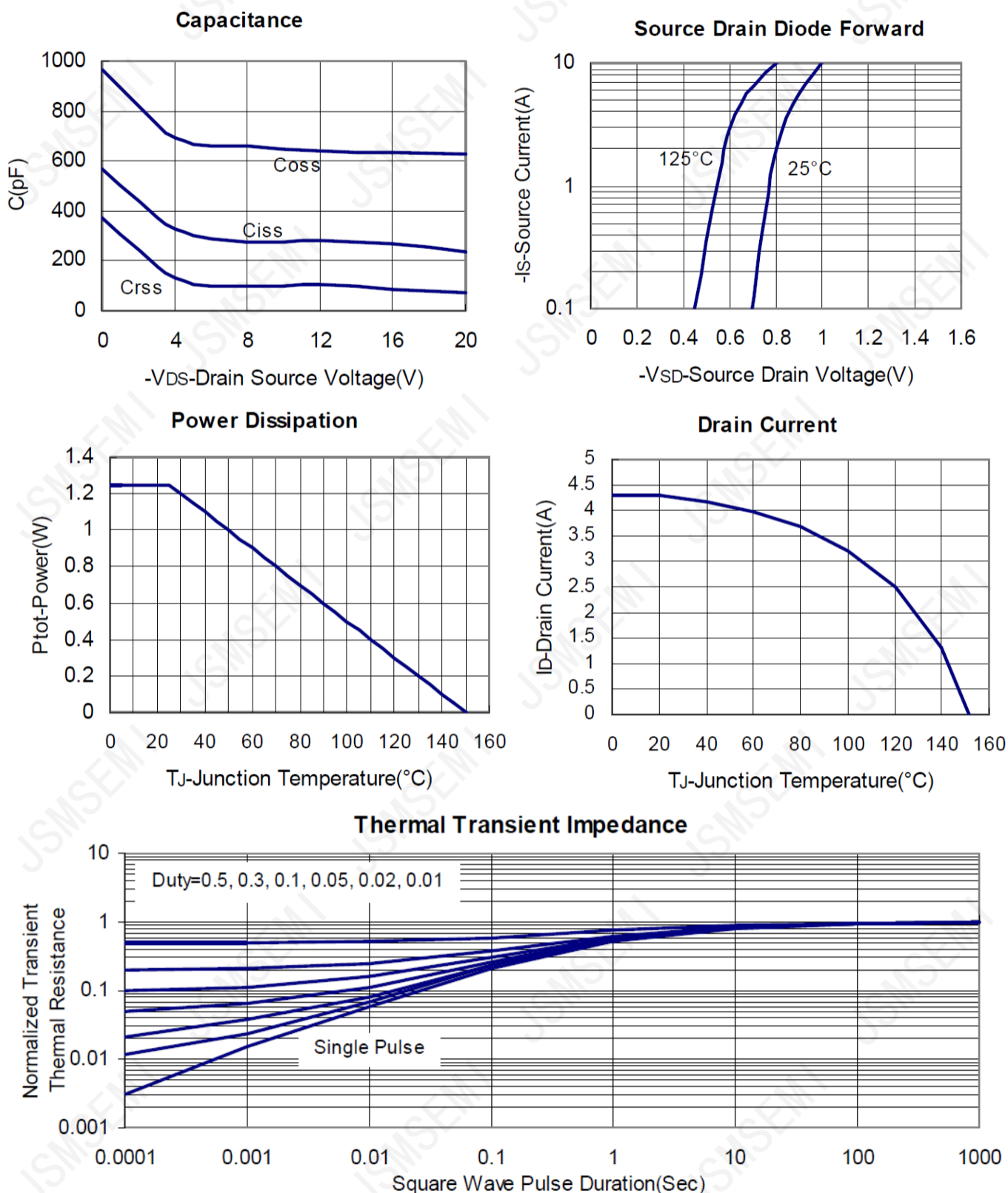
Note: 1. Pulse test: pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$

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

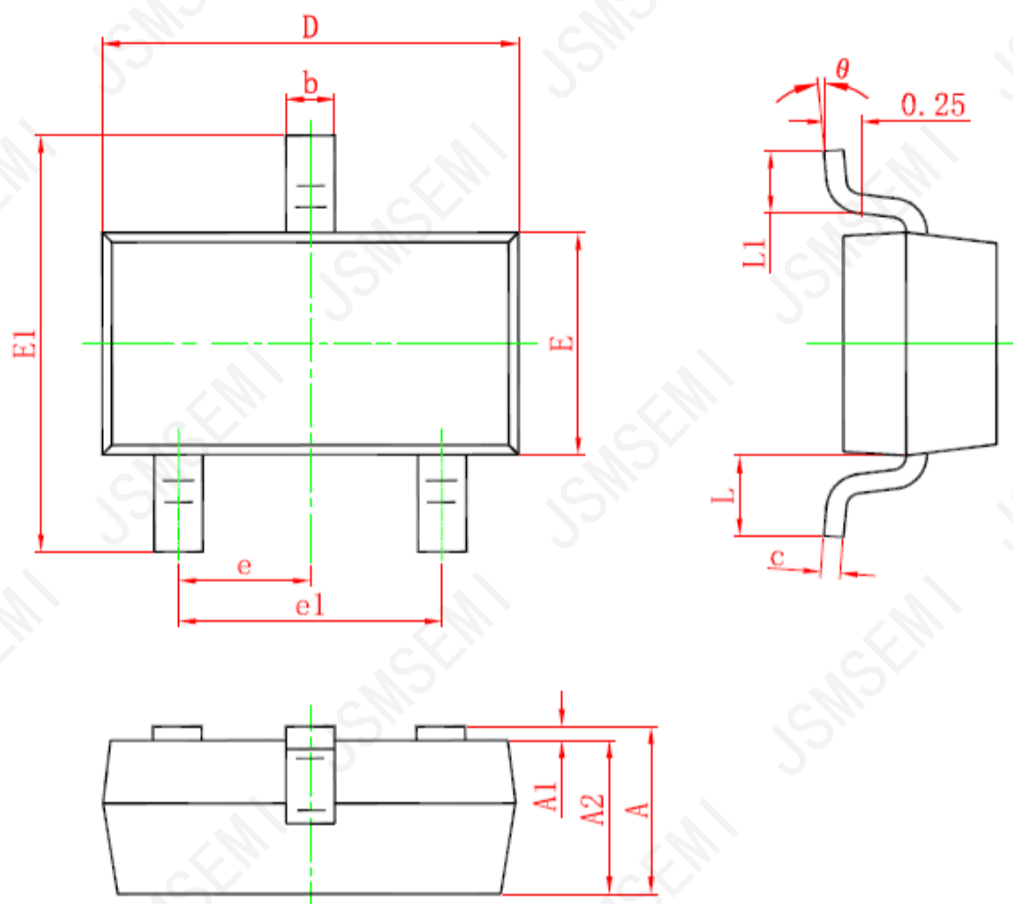
TYPICAL CHARACTERISTICS (25°C Unless Note)



TYPICAL CHARACTERISTICS (continuous)



SOT23 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Revision History

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

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