

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

DESCRIPTION

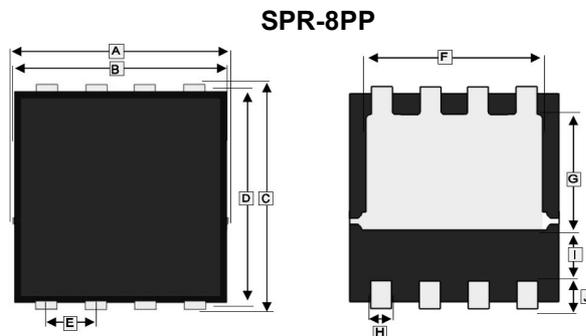
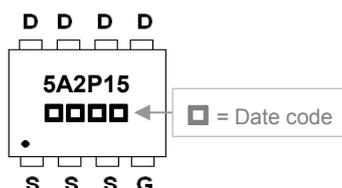
The SSPR5A2P15 is the highest performance trench P-ch MOSFETs with extreme high cell density , which provide excellent RDSON and gate charge for most of the synchronous buck converter applications .

The SSPR5A2P15 meet the RoHS and Green Product requirement with full function reliability approved.

FEATURES

- Super Low Gate Charge
- Advanced high cell density Trench technology
- Green Device Available

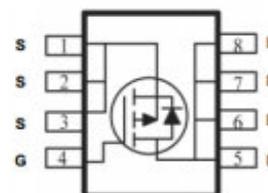
MARKING



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	3.20	3.40	G	1.35	1.98
B	3.00	3.25	H	0.24	0.35
C	3.20	3.45	I	0.35TYP.	
D	3.00	3.20	J	0.60TYP.	
E	0.65 BSC.		K	0.10	0.25
F	2.39	2.60	L	0.70	0.90

PACKAGE INFORMATION

Package	MPQ	Leader Size
SPR-8PP	3K	13 inch



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-150	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ¹ @ $V_{GS} = -10V$	I_D	$T_C=25^\circ\text{C}$	-5.2
		$T_C=100^\circ\text{C}$	-3.2
		$T_A=25^\circ\text{C}$	-1.4
		$T_A=70^\circ\text{C}$	-1
Pulsed Drain Current ³	I_{DM}	-10.4	A
Total Power Dissipation	P_D	$T_C=25^\circ\text{C}$	39
		$T_A=25^\circ\text{C}$	2.1
Operating Junction & Storage Temperature	T_J, T_{STG}	-55~150	$^\circ\text{C}$
Thermal Resistance Rating			
Thermal Resistance Junction-Ambient ¹	$R_{\theta JA}$	60	$^\circ\text{C/W}$
Thermal Resistance Junction-Ambient ²	$R_{\theta JA}$	135	$^\circ\text{C/W}$
Thermal Resistance Junction-Case ¹	$R_{\theta JC}$	3.2	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_J=25^\circ\text{C}$ unless otherwise specified)

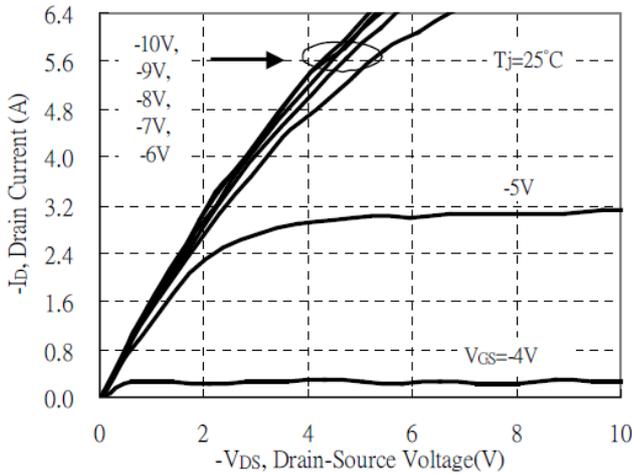
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	-150	-	-	V	$V_{GS}=0, I_D = -250\mu\text{A}$
Gate-Threshold Voltage	$V_{GS(th)}$	-2	-	-4	V	$V_{DS}=V_{GS}, I_D = -250\mu\text{A}$
Forward Transfer conductance	g_{fs}	-	2.5	-	S	$V_{DS} = -10\text{V}, I_D = -1.4\text{A}$
Gate-Source Leakage Current	I_{GSS}	-	-	± 100	nA	$V_{GS} = \pm 20\text{V}$
Drain-Source Leakage Current	I_{DSS}	-	-	-1	uA	$V_{DS} = -120\text{V}, V_{GS}=0, T_J=25^\circ\text{C}$
		-	-	-10		$V_{DS} = -120\text{V}, V_{GS}=0, T_J=125^\circ\text{C}$
Static Drain-Source On-Resistance ⁴	$R_{DS(ON)}$	-	-	780	m Ω	$V_{GS} = -10\text{V}, I_D = -1.4\text{A}$
Total Gate Charge	Q_g	-	6	-	nC	$I_D = -1\text{A}$ $V_{DS} = -75\text{V}$ $V_{GS} = -10\text{V}$
Gate-Source Charge	Q_{gs}	-	2	-		
Gate-Drain ("Miller") Change	Q_{gd}	-	1.4	-		
Turn-on Delay Time ²	$T_{d(on)}$	-	8	-	nS	$V_{DD} = -75\text{V}$ $I_D = -1\text{A}$ $V_{GS} = -10\text{V}$ $R_G = 1\Omega$
Rise Time	T_r	-	6	-		
Turn-off Delay Time	$T_{d(off)}$	-	20	-		
Fall Time	T_f	-	4	-		
Input Capacitance	C_{iss}	-	498	-	pF	$V_{GS} = 0$ $V_{DS} = -15\text{V}$ $f = 1.0\text{MHz}$
Output Capacitance	C_{oss}	-	40	-		
Reverse Transfer Capacitance	C_{rss}	-	17	-		
Source-Drain Diode						
Continuous Source Current ¹	I_S	-	-	-1.4	A	
Pulsed Source Current ³	I_{SM}	-	-	-10.4	A	
Diode Forward Voltage ⁴	V_{SD}	-	-	-1.2	V	$I_S = -1\text{A}, V_{GS}=0, T_J=25^\circ\text{C}$
Reverse Recovery Time	T_{rr}	-	60	-	nS	$I_F = -1\text{A}, di/dt = 100\text{A}/\mu\text{S}, T_J=25^\circ\text{C}$
Reverse Recovery Charge	Q_{rr}	-	120	-	nC	

Notes:

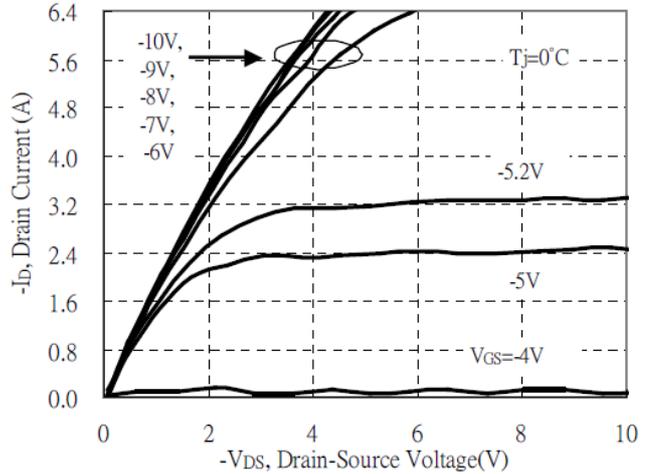
1. Surface mounted on a 1 inch² FR-4 board with 2OZ copper.
2. When mounted on minimum pad of 2 oz. copper
3. The power dissipation is limited by 150 $^\circ\text{C}$ junction temperature
4. The data tested by pulsed , pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$

CHARACTERISTIC CURVES

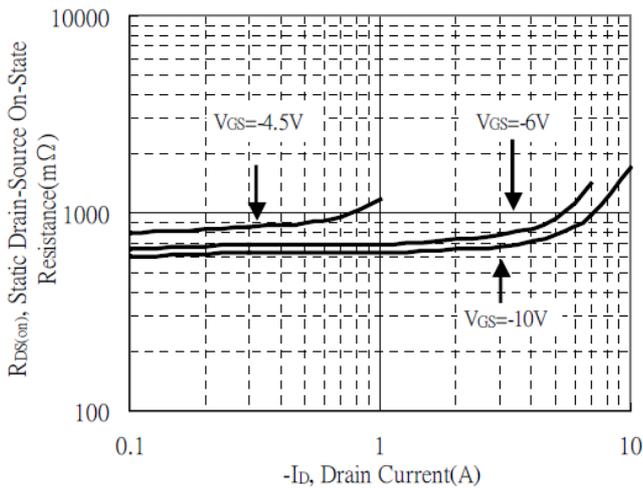
Typical Output Characteristics



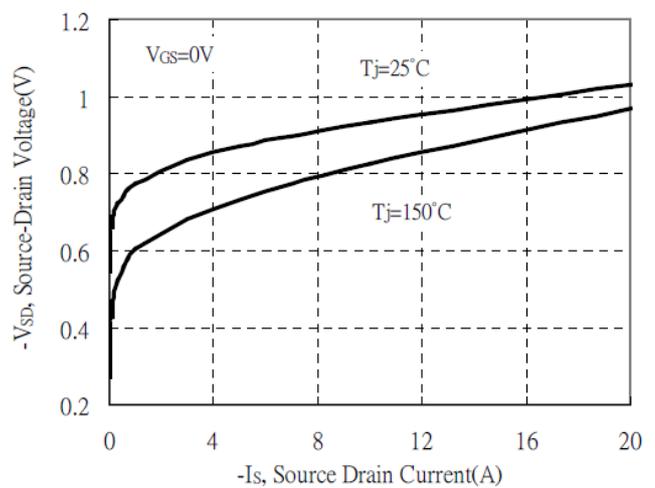
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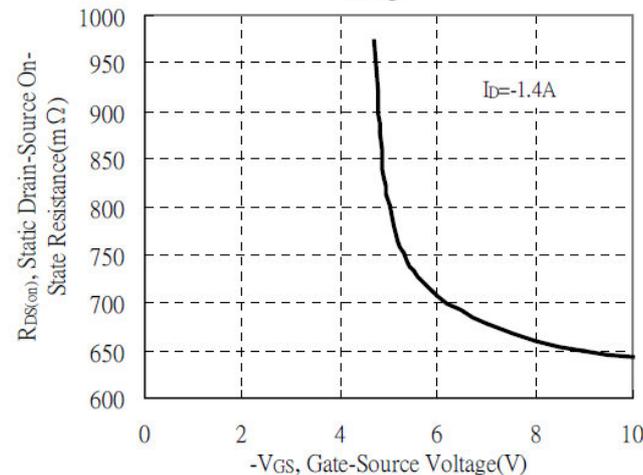
Static Drain-Source On-State resistance vs Drain Current



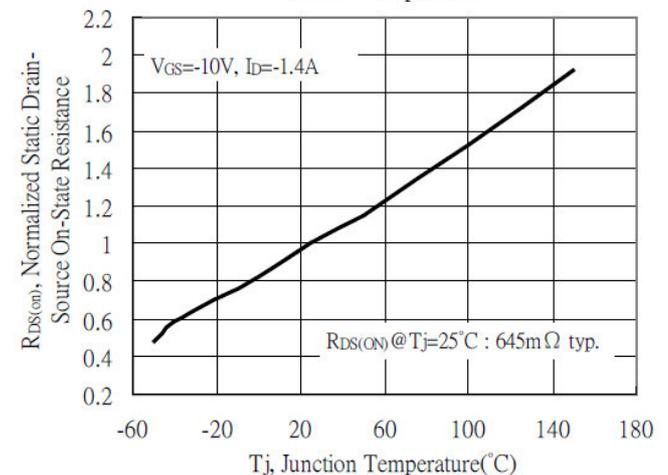
Source Drain Current vs Source-Drain Voltage



Static Drain-Source On-State Resistance vs Gate-Source Voltage



Normalized Drain-Source On-State Resistance vs Junction Temperature



CHARACTERISTIC CURVES

