



SPP2327

P-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPP2327 is the P-Channel logic enhancement mode power field effect transistor which is produced using super high cell density DMOS trench technology. The SPP2327 has been designed specifically to improve the overall efficiency of DC/DC converters using either synchronous or conventional switching PWM controllers. It has been optimized for low gate charge, low $R_{DS(ON)}$ and fast switching speed.

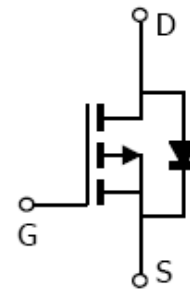
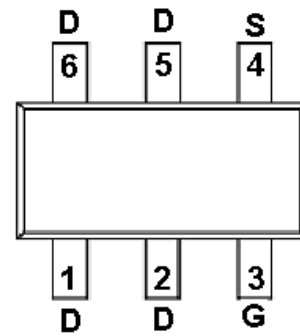
APPLICATIONS

- Powered System
- DC/DC Converter
- Load Switch

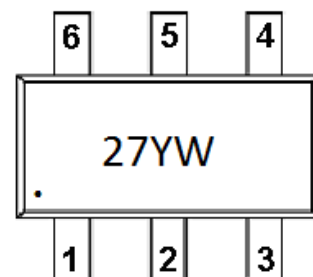
FEATURES

- ◆ $-100V/-1.0A$, $R_{DS(ON)}=650m\Omega@V_{GS}=-10V$
- ◆ $-100V/-0.5A$, $R_{DS(ON)}=750m\Omega@V_{GS}=-4.5V$
- ◆ High density cell design for extremely low $R_{DS(ON)}$
- ◆ Exceptional on-resistance and maximum DC current capability
- ◆ SOT-23-6L package design

PIN CONFIGURATION(SOT-23-6L)



PART MARKING





SPP2327

P-Channel Enhancement Mode MOSFET

PIN DESCRIPTION

Pin	Symbol	Description
1	D	Drain
2	D	Drain
3	G	Gate
4	S	Source
5	D	Drain
6	D	Drain

ORDERING INFORMATION

Part Number	Package	Part Marking
SPP2327S26RGB	SOT-23-6L	27YW

※ SPP2327S26RGB : Tape Reel ; Pb – Free ; Halogen – Free

ABSOLUTE MAXIMUM RATINGS (TA=25°C Unless otherwise noted)

Parameter	Symbol	Typical	Unit	
Drain-Source Voltage	V _{DSS}	-100	V	
Gate –Source Voltage	V _{GSS}	±20	V	
Continuous Drain Current(T _J =150°C)	I _D	TA=25°C	-1.5	A
		TA=70°C	-1.2	
Pulsed Drain Current	I _{DM}	-4.5	A	
Power Dissipation	P _D	TA=25°C	1.15	W
		TA=70°C	0.8	
Operating Junction Temperature	T _J	-55/150	°C	
Storage Temperature Range	T _{STG}	-55/150	°C	
Thermal Resistance-Junction to Ambient	R _{θJA}	100	°C/W	



SPP2327

P-Channel Enhancement Mode MOSFET

ELECTRICAL CHARACTERISTICS (TA=25°C Unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1	-1.5	-2.5	
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-80V, V_{GS}=0V,$ $T_J=25^\circ C$			10	uA
		$V_{DS}=-80V, V_{GS}=0V$ $T_J=55^\circ C$			100	
On-State Drain Current	$I_{D(on)}$	$V_{DS}=V_{GS}=0V$	-		-1.5	A
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-1A$		0.52	0.65	Ω
		$V_{GS}=-4.5V, I_D=-0.5A$		0.6	0.75	Ω
Forward Transconductance	g_{fs}	$V_{DS}=-10V, I_D=-1A$		2.9		S
Diode Forward Voltage	V_{SD}	$I_S=-1A, V_{GS}=0V$			-1.2	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=-50V, V_{GS}=-10V$ $I_D=-1A$		9.3		nC
Gate-Source Charge	Q_{gs}			1.75		
Gate-Drain Charge	Q_{gd}			1.25		
Input Capacitance	C_{iss}	$V_{DS}=-15, V_{GS}=0V$ $f=1MHz$		553		pF
Output Capacitance	C_{oss}			29		
Reverse Transfer Capacitance	C_{rss}			20		
Turn-On Time	$t_{d(on)}$	$V_{DD}=-50V, I_D=-0.5A,$ $V_{GS}=-10V, R_G=3.3\Omega$		2		nS
	t_r			18.4		
Turn-Off Time	$t_{d(off)}$			19.6		
	t_f			19.5		



SPP2327

P-Channel Enhancement Mode MOSFET

TYPICAL CHARACTERISTICS

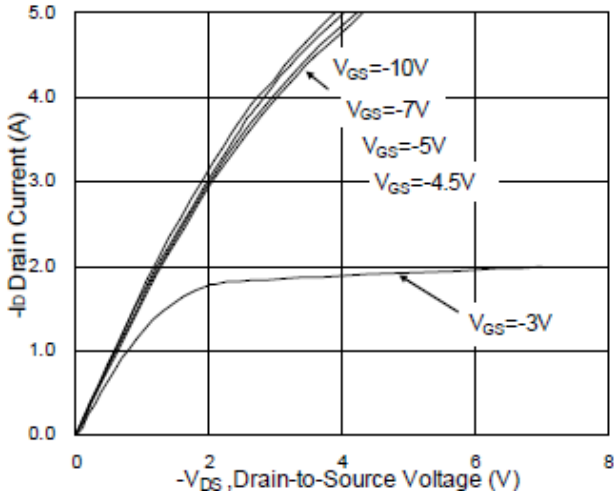


Fig 1 Output Characteristics

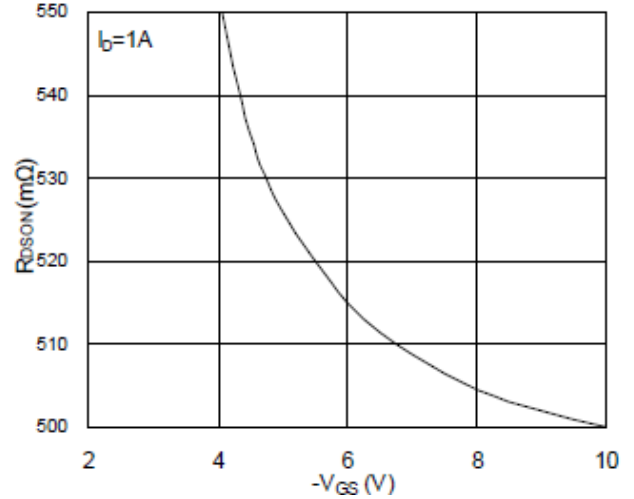


Fig. 2 On-Resistance vs Gate Source Voltage

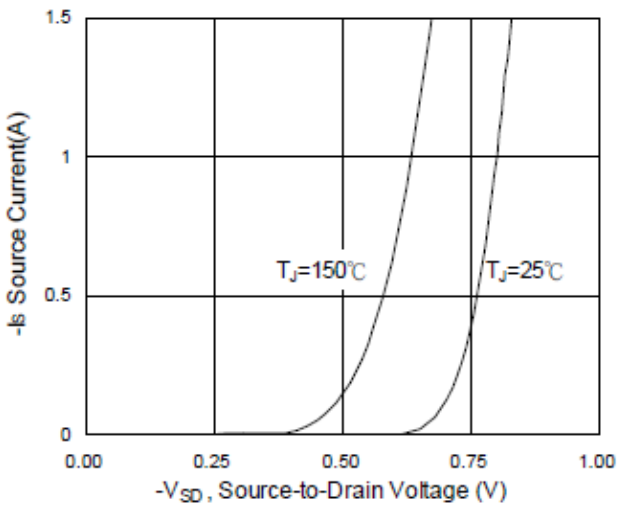


Fig 3 Source-Drain Forward Voltage

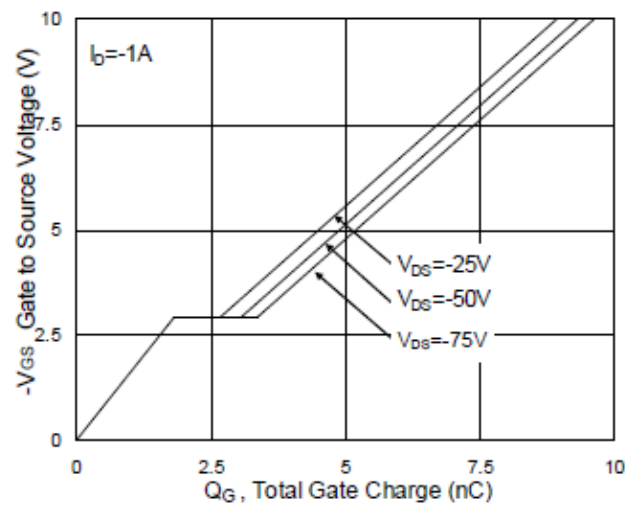


Fig. 4 Gate Charge

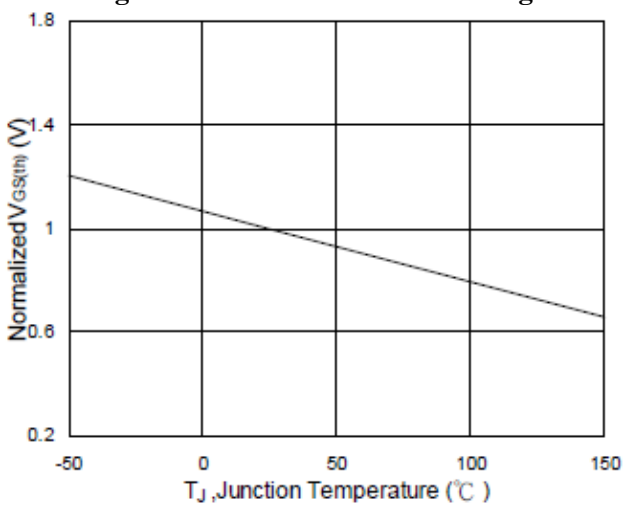


Fig. 5 Gate Voltage vs Junction temperature

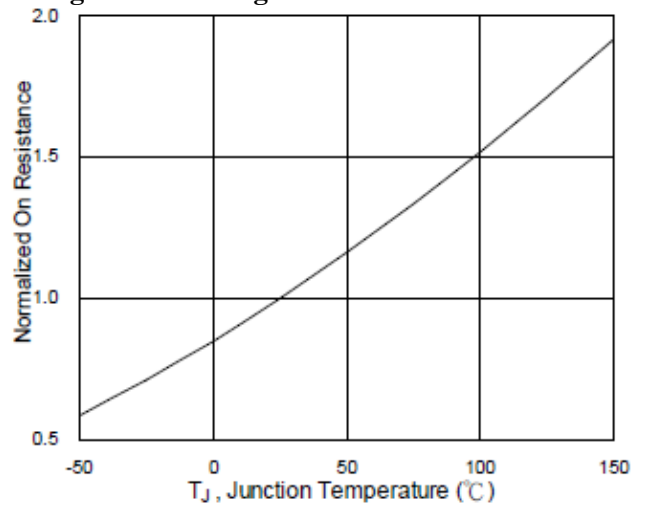


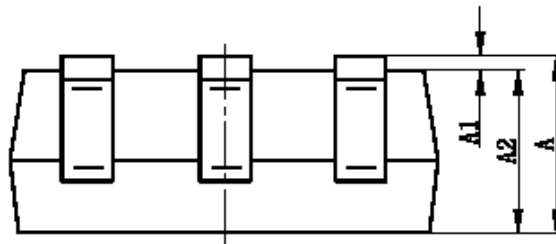
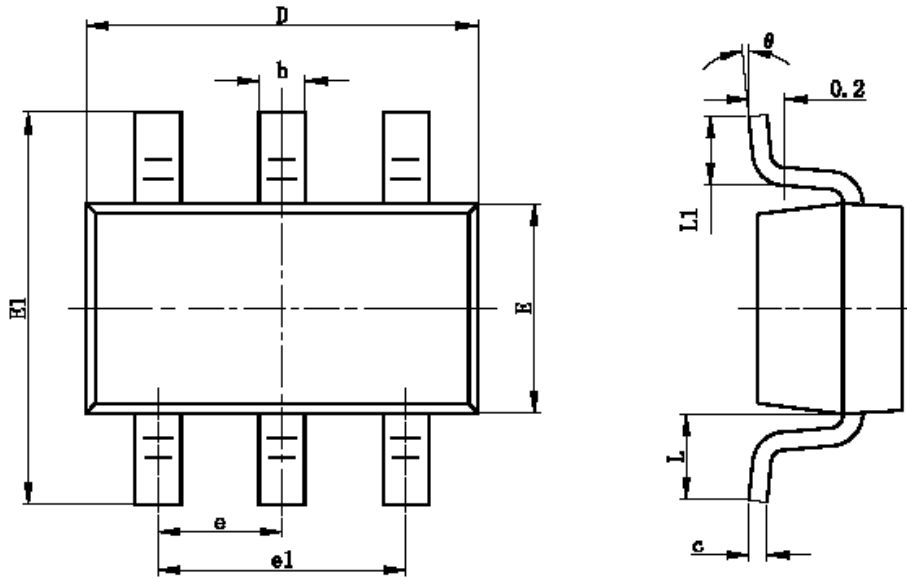
Fig. 6 On-Resistance vs Junction Temperature



SPP2327

P-Channel Enhancement Mode MOSFET

SOT-23-6L PACKAGE OUTLINE



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	0.400	0.012	0.016
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.700REF		0.028REF	
L1	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°



SPP2327

P-Channel Enhancement Mode MOSFET

Information provided is alleged to be exact and consistent. SYNC Power Corporation presumes no responsibility for the penalties of use of such information or for any violation of patents or other rights of third parties which may result from its use. No license is granted by allegation or otherwise under any patent or patent rights of SYNC Power Corporation. Conditions mentioned in this publication are subject to change without notice. This publication surpasses and replaces all information previously supplied. SYNC Power Corporation products are not authorized for use as critical components in life support devices or systems without express written approval of SYNC Power Corporation.

© The SYNC Power logo is a registered trademark of SYNC Power Corporation

© 2013 SYNC Power Corporation – Printed in Taiwan – All Rights Reserved

SYNC Power Corporation

7F-2, No.3-1, Park Street

NanKang District (NKSP), Taipei, Taiwan, 115, R.O.C

Phone: 886-2-2655-8178

Fax: 886-2-2655-8468

© <http://www.syncpower.com>