



SPP2329

P-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPP2329 is the P-Channel logic enhancement mode power field effect transistor which is produced using super high cell density DMOS trench technology. The SPP2329 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.

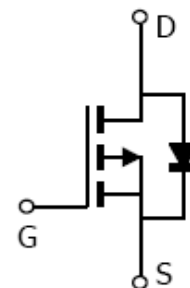
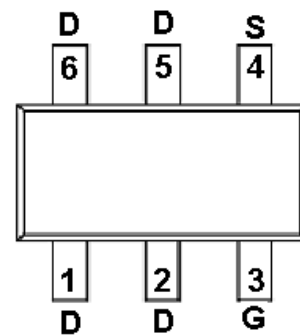
APPLICATIONS

- Powered System
- DC/DC Converter
- Load Switch

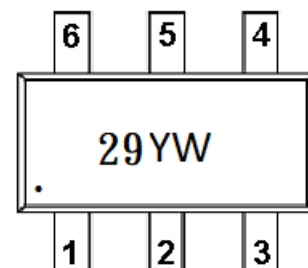
FEATURES

- ◆ -150V/-1.0A, $R_{DS(ON)}=900m\Omega@V_{GS}=-10V$
- ◆ -150V/-1.0A, $R_{DS(ON)}=1000m\Omega@V_{GS}=-4.5V$
- ◆ 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





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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
SPP2329S26RGB	SOT-23-6L	29YW

※ SPP2329S26RGB : Tape Reel ; Pb – Free ; Halogen – Free

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

Parameter	Symbol	Typical	Unit
Drain-Source Voltage	V _{DSS}	-150	V
Gate –Source Voltage	V _{GSS}	±20	V
Continuous Drain Current	I _D	-1.0	A
Pulsed Drain Current *Note1	I _{DM}	-3.0	A
Power Dissipation	P _D	2.1	W
Operating Junction Temperature	T _J	-55/150	°C
Storage Temperature Range	T _{STG}	-55/150	°C
Thermal Resistance-Junction to Ambient *Note2	R _{θJA}	60	°C/W

Notes:

1. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
2. R_{θJA} is the sum of the junction-to-case and case-to-ambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drain pins. R_{θJC} is guaranteed by design while R_{θCA} is determined by the user's board design. R_{θJA} shown below for single device operation on FR-4 in still air.



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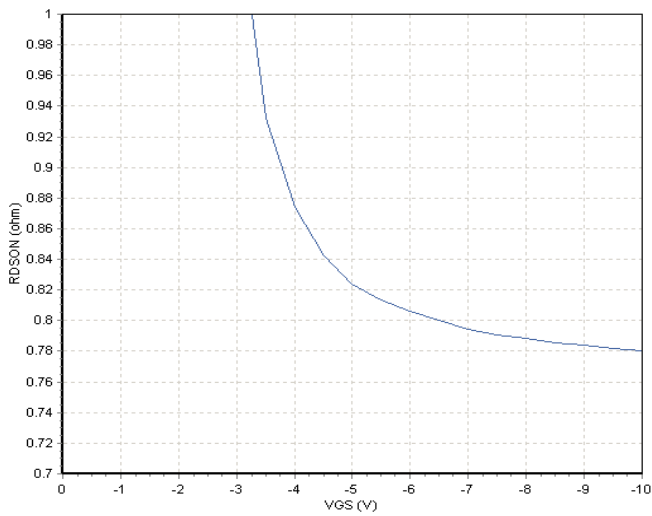
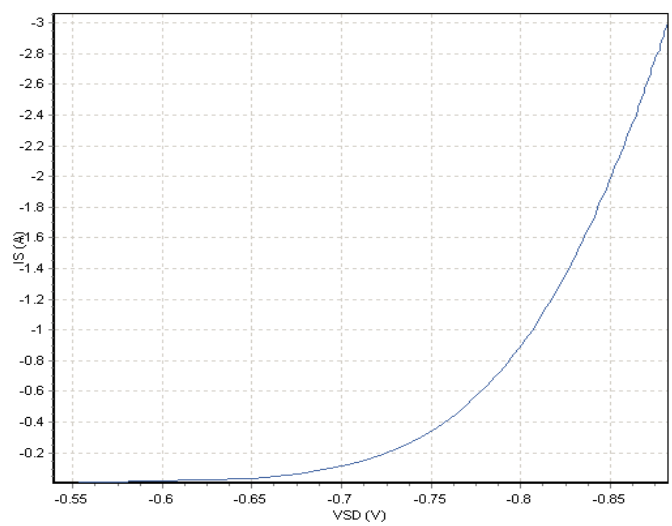
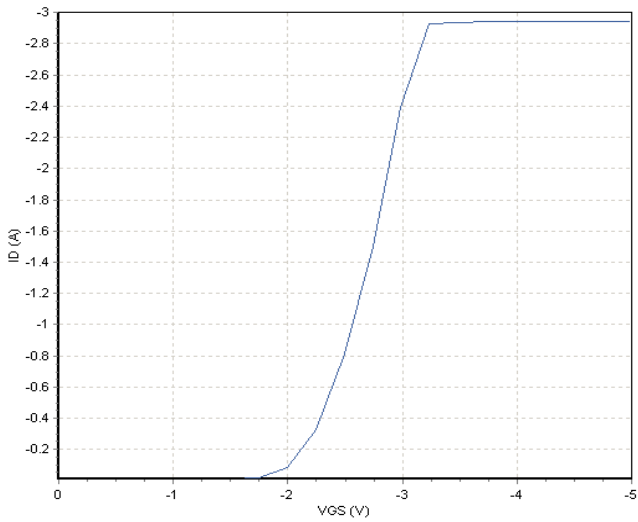
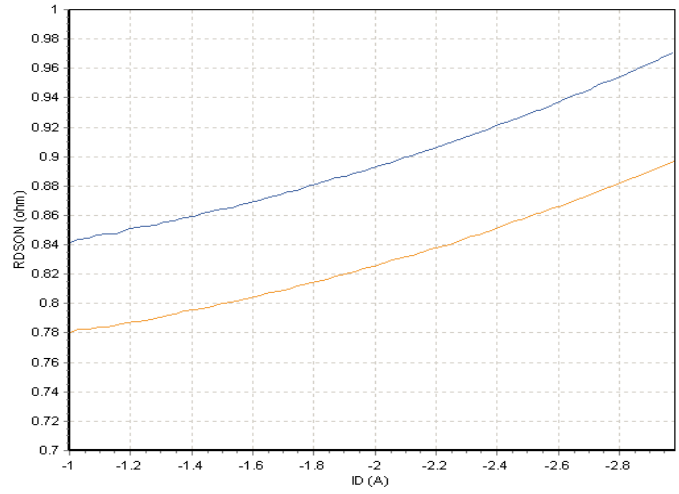
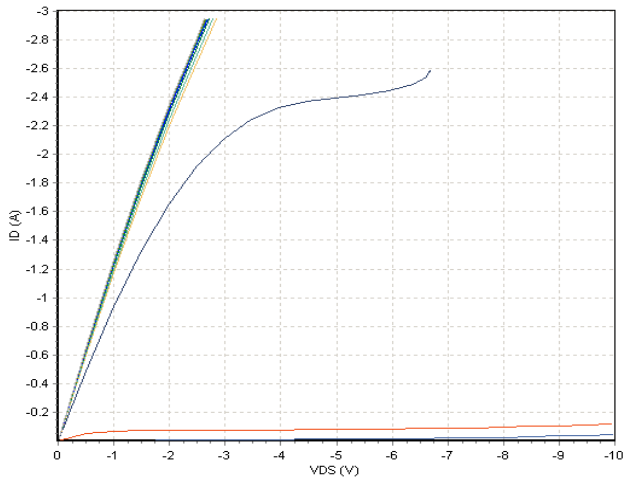
ELECTRICAL CHARACTERISTICS (TA=25°C Unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-150			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1		-2.0	
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-120V, V_{GS}=0V, T_J=25^\circ C$			-1	μA
On-State Drain Current	$I_{D(on)}$	$V_{DS}=V_{GS}=0V$			-1.0	A
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-1A$		780	900	$m\Omega$
		$V_{GS}=-4.5V, I_D=-1A$		880	1000	$m\Omega$
Forward Transconductance	g_{fs}	$V_{DS}=-10V, I_D=-1A$		2.4		S
Diode Forward Voltage	V_{SD}	$I_S=-1A, V_{GS}=0V$	-0.4		-1.0	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=-75V, V_{GS}=-10V, I_D=-1A$		20		nC
Gate-Source Charge	Q_{gs}			5		
Gate-Drain Charge	Q_{gd}			8		
Input Capacitance	C_{iss}	$V_{DS}=-75, V_{GS}=0V, f=1MHz$		750		pF
Output Capacitance	C_{oss}			48		
Reverse Transfer Capacitance	C_{rss}			20		
Turn-On Time	$t_{d(on)}$	$V_{DD}=-75V, V_{GS}=-10V, R_G=3.0\Omega$		12		nS
	t_r			32		
Turn-Off Time	$t_{d(off)}$			30		
	t_f			10		



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TYPICAL CHARACTERISTIC (TBD)

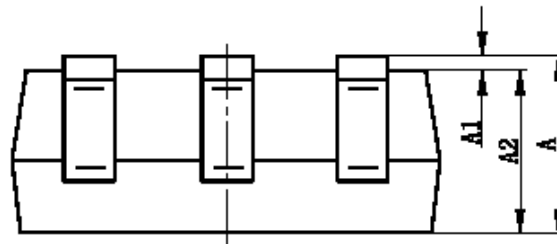
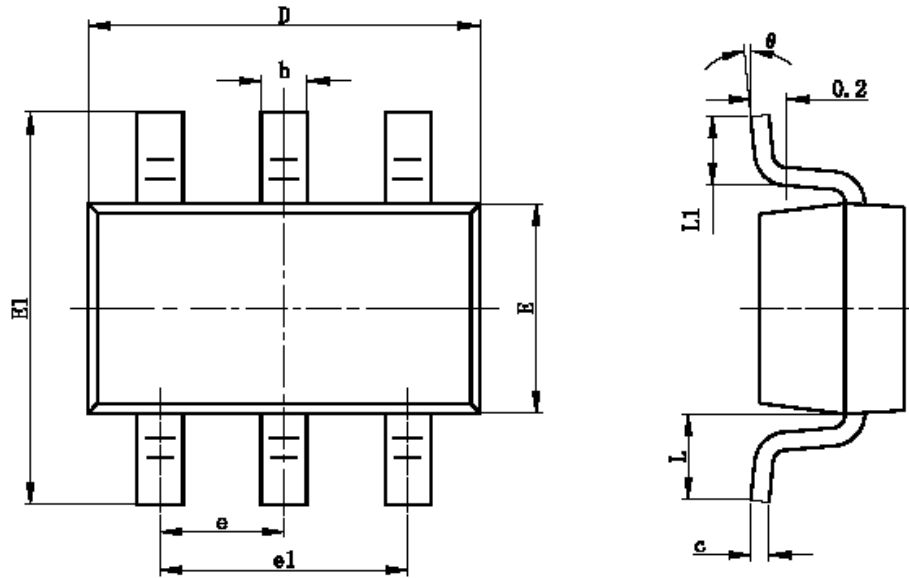




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SOT-23-6L PACKAGE OUTLINE



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°



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