



# SPP6506

## Dual P-Channel Enhancement Mode MOSFET

### DESCRIPTION

The SPP6506 is the Dual P-Channel enhancement mode power field effect transistors are produced using high cell density , DMOS trench technology. This high density process is especially tailored to minimize on-state resistance and provide superior switching performance. These devices are particularly suited for low voltage applications such as notebook computer power management and other battery powered circuits where high-side switching , low in-line power loss, and resistance to transients are needed.

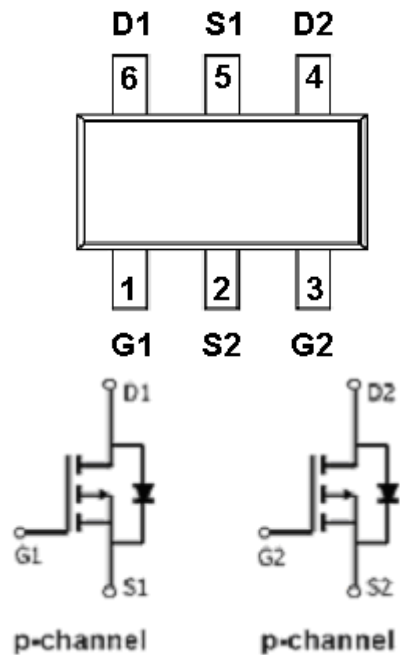
### FEATURES

- ◆ P-Channel  
-30V/-2.8A,  $R_{DS(ON)}=105m\Omega@V_{GS}=-10V$   
-30V/-2.5A,  $R_{DS(ON)}=135m\Omega@V_{GS}=-4.5V$
- ◆ Super high density cell design for extremely low  $R_{DS(ON)}$
- ◆ Exceptional on-resistance and maximum DC current capability
- ◆ SOT-23-6L package design

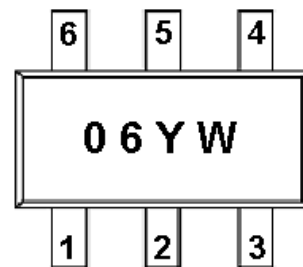
### APPLICATIONS

- Power Management in Note book
- Portable Equipment
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC
- LCD Display inverter

### PIN CONFIGURATION( SOT-23-6L )



### PART MARKING



Y : Year Code  
W : Week Code



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### PIN DESCRIPTION

Pin	Symbol	Description
1	G1	Gate 1
2	S2	Source 2
3	G2	Gate 2
4	D2	Drain 2
5	S1	Source 1
6	D1	Drain1

### ORDERING INFORMATION

Part Number	Package	Part Marking
SPP6506S26RGB	SOT-23- 6L	06YW

※ Week Code : A ~ Z( 1 ~ 26 ) ; a ~ z( 27 ~ 52 )

※ SPP6506S26RGB : Tape Reel ; Pb – Free ; Halogen – Free

### ABSOLUTE MAXIMUM RATINGS

(TA=25°C Unless otherwise noted)

Parameter	Symbol	Typical	Unit
Drain-Source Voltage	V <sub>DSS</sub>	-30	V
Gate –Source Voltage	V <sub>GSS</sub>	±20	V
Continuous Drain Current(T <sub>J</sub> =150°C)	I <sub>D</sub>	TA=25°C	-2.8
		TA=70°C	-2.1
Pulsed Drain Current	I <sub>DM</sub>	-8	A
Continuous Source Current(Diode Conduction)	I <sub>S</sub>	-1.4	A
Power Dissipation	P <sub>D</sub>	TA=25°C	1.15
		TA=70°C	0.75
Operating Junction Temperature	T <sub>J</sub>	-55/150	°C
Storage Temperature Range	T <sub>STG</sub>	-55/150	°C
Thermal Resistance-Junction to Ambient	R <sub>θJA</sub>	T ≤ 10sec	52
		Steady State	90



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### ELECTRICAL CHARACTERISTICS

(TA=25°C Unless otherwise noted)

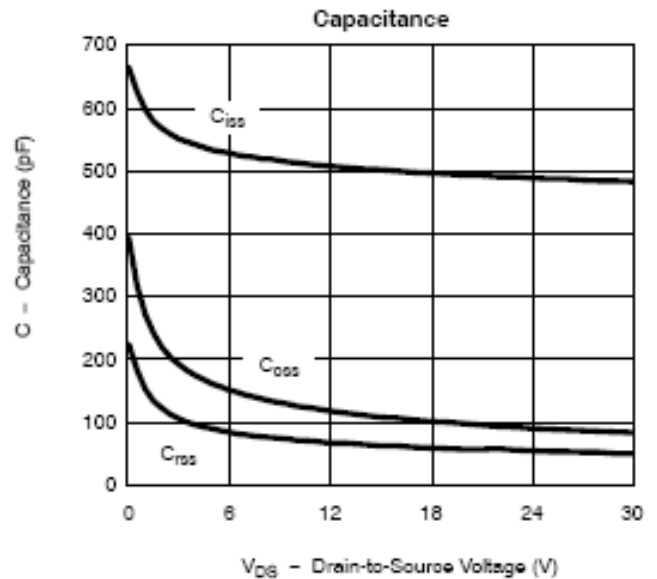
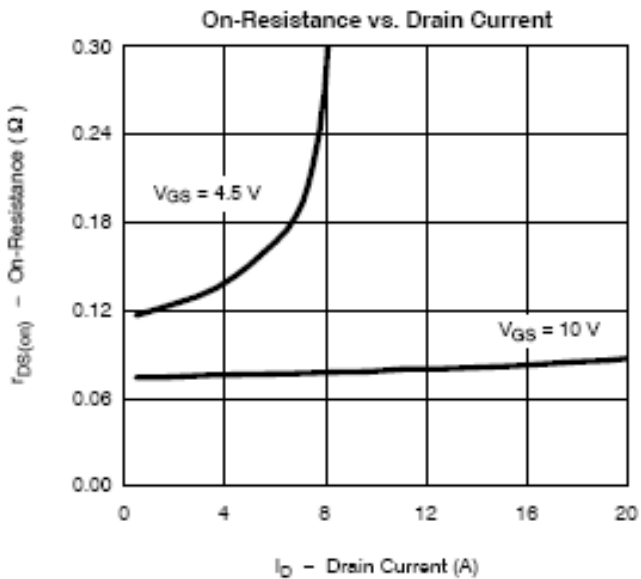
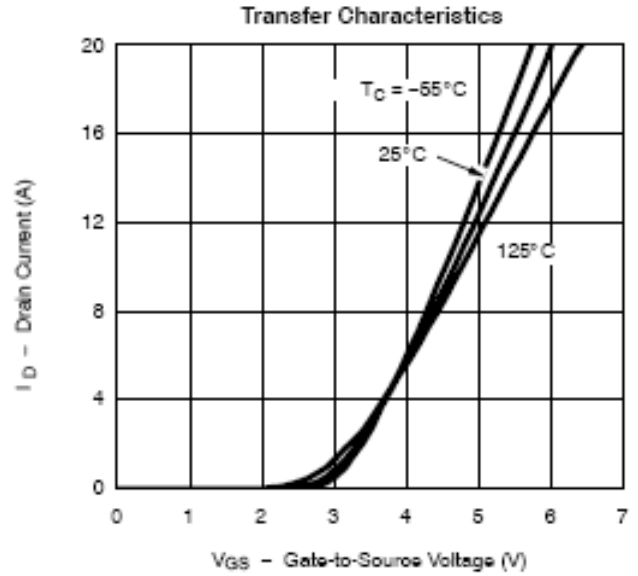
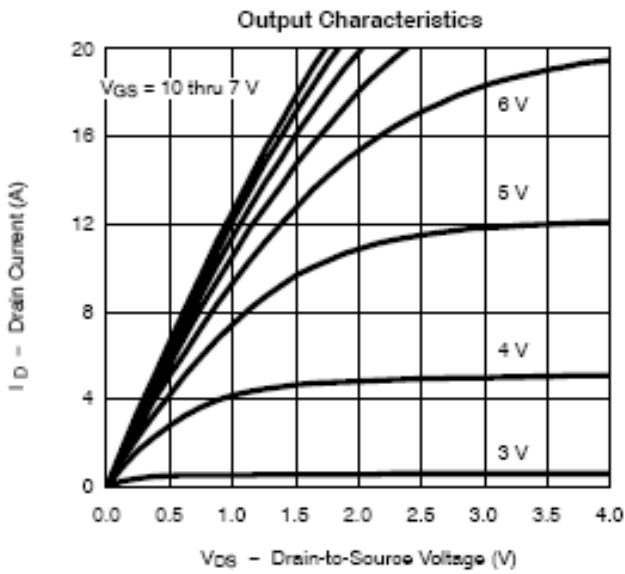
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
<b>Static</b>						
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =-250uA	-30			V
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =-250uA	-1.0		-3.0	
Gate Leakage Current	I <sub>GSS</sub>	V <sub>DS</sub> =0V, V <sub>GS</sub> =±20V			±100	nA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-24V, V <sub>GS</sub> =0V			-1	uA
		V <sub>DS</sub> =-24V, V <sub>GS</sub> =0V T <sub>J</sub> =55°C			-10	
On-State Drain Current	I <sub>D(on)</sub>	V <sub>DS</sub> ≤ -5V, V <sub>GS</sub> =-10V	-6			A
Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =-10V, I <sub>D</sub> =-2.8A		0.088	0.105	Ω
		V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-2.5A		0.118	0.135	
Forward Transconductance	g <sub>fs</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-2.8A		4.0		S
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =-1.2A, V <sub>GS</sub> =0V		-0.8	-1.2	V
<b>Dynamic</b>						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =-15V, V <sub>GS</sub> =-10V I <sub>D</sub> =-1.7A		5.8	10	nC
Gate-Source Charge	Q <sub>gs</sub>			0.8		
Gate-Drain Charge	Q <sub>gd</sub>			1.5		
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =-15V, V <sub>GS</sub> =0V f=1MHz		226		pF
Output Capacitance	C <sub>oss</sub>			87		
Reverse Transfer Capacitance	C <sub>rss</sub>			19		
Turn-On Time	t <sub>d(on)</sub>	V <sub>DD</sub> =-15V, R <sub>L</sub> =15Ω I <sub>D</sub> =-1.0A, V <sub>GEN</sub> =-10V R <sub>G</sub> =6Ω		9	20	ns
	t <sub>r</sub>			9	20	
Turn-Off Time	t <sub>d(off)</sub>			18	35	
	t <sub>f</sub>			6	20	



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### TYPICAL CHARACTERISTICS

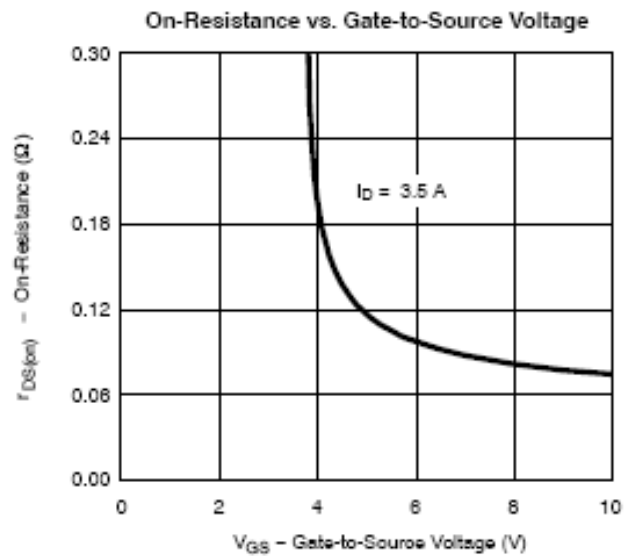
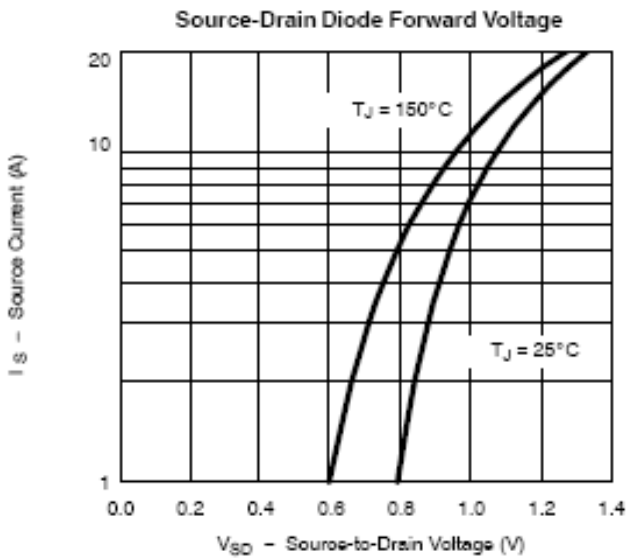
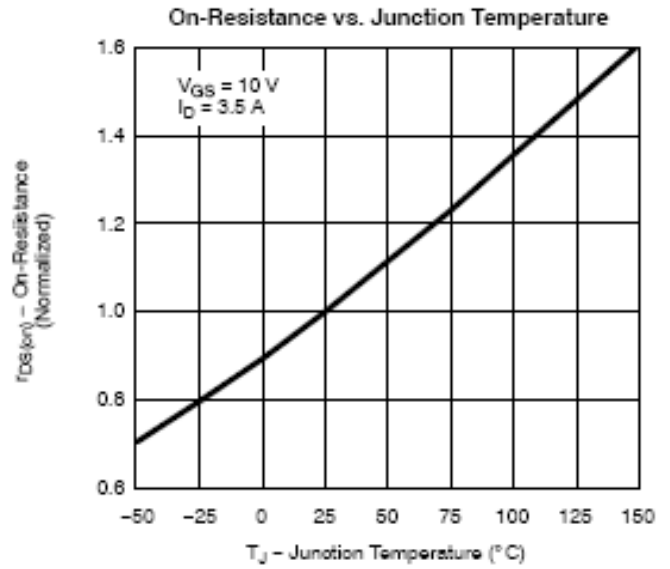
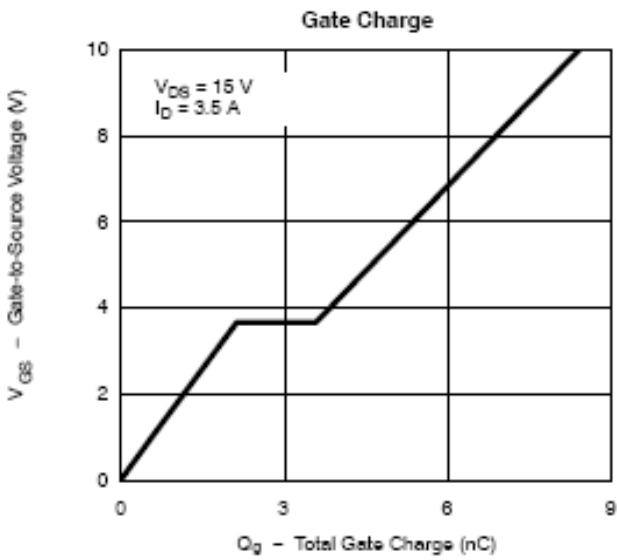




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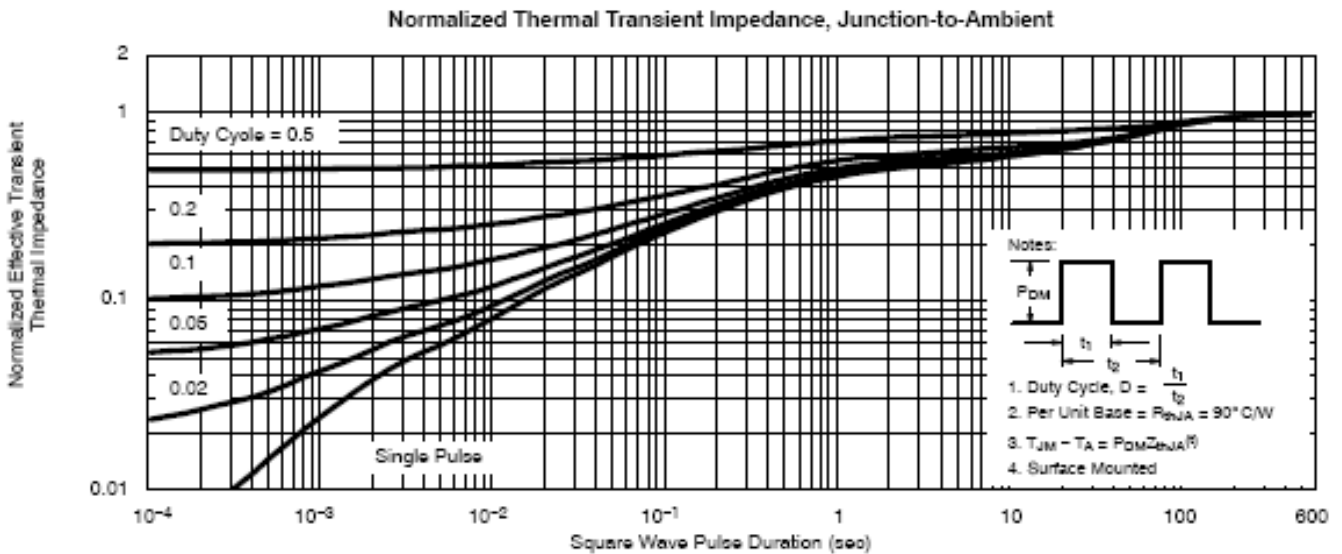
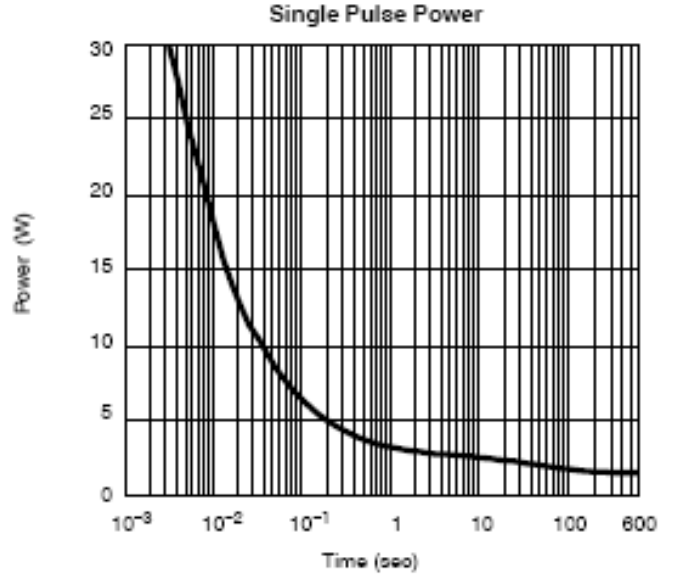
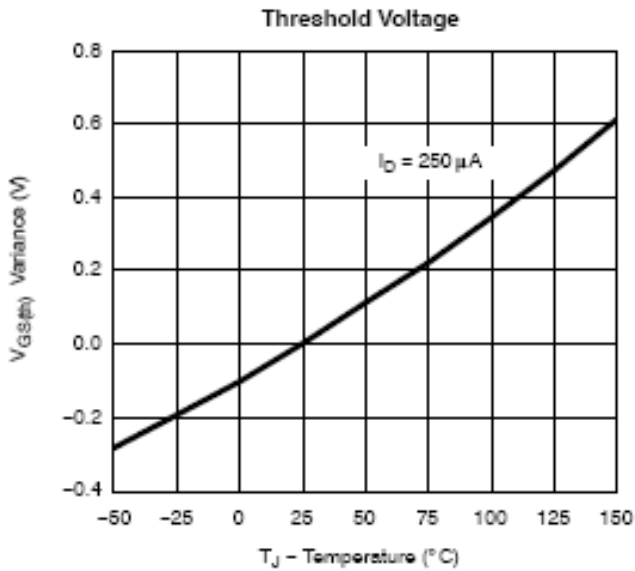




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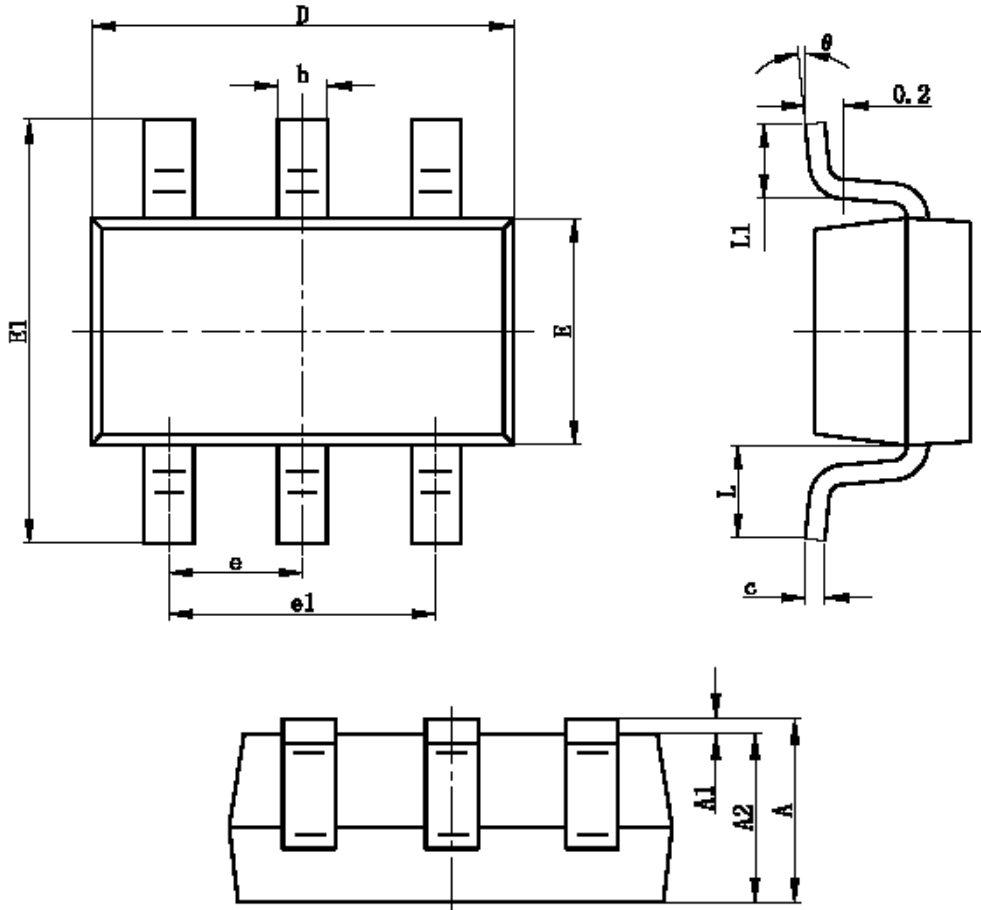




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### SOT-23-6L PACKAGE OUTLINE



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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SYNC Power Corporation

9F-5, No.3-2, Park Street

NanKang District (NKSP), Taipei, Taiwan 115

Phone: 886-2-2655-8178

Fax: 886-2-2655-8468

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