



SPP6307

P-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPP6307 is the P-Channel enhancement mode power field effect transistors are produced using high cell density, D MOS 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.

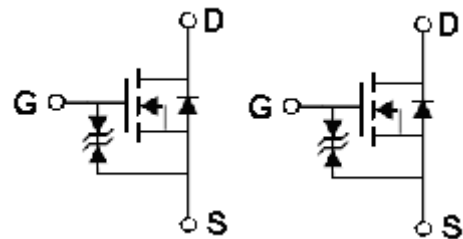
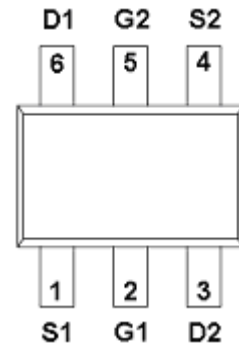
FEATURES

- ◆ P-Channel
 - 20V/0.45A, $R_{DS(ON)} = 0.65\Omega @ V_{GS} = -4.5V$
 - 20V/0.35A, $R_{DS(ON)} = 0.90\Omega @ V_{GS} = -2.5V$
 - 20V/0.25A, $R_{DS(ON)} = 1.5\Omega @ V_{GS} = -1.8V$
- ◆ Super high density cell design for extremely low $R_{DS(ON)}$
- ◆ Exceptional on-resistance and maximum DC current capability
- ◆ SOT-363 package design

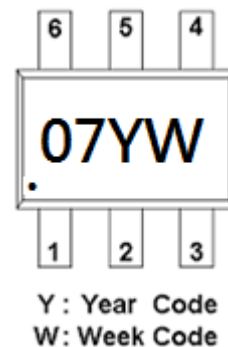
APPLICATIONS

- Drivers : Relays/Solenoids/Lamps/Hammers
- Power Supply Converter Circuits
- Load/Power Switching Cell Phones, Pagers

PIN CONFIGURATION(SOT-363)



PART MARKING





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PIN DESCRIPTION

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

ORDERING INFORMATION

Part Number	Package	Part Marking
SPP6307S36RGB	SOT-363	07

※ SPP1073S72RGB : Tape Reel ; Pb – Free, Halogen – Fre

ABSOLUTE MAXIMUM RATINGS

(TA=25°C Unless otherwise noted)

Parameter Symbol		Typical	Unit
Drain-Source Voltage	V _{DSS}	-30	V
Gate –Source Voltage	V _{GSS}	±12	V
Continuous Drain Current(T _J =150°C)	TA=25°C	-0.45	A
	TA=80°C	-0.35	
Pulsed Drain Current	I _{DM}	-1.0	A
Continuous Source Current(Diode Conduction)	I _S	-0.3	A
Power Dissipation	TA=25°C	0.27	W
	TA=70°C	0.16	
Operating Junction Temperature	T _J	-55/150	°C
Storage Temperature Range	T _{STG}	-55/150	°C



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ELECTRICAL CHARACTERISTICS

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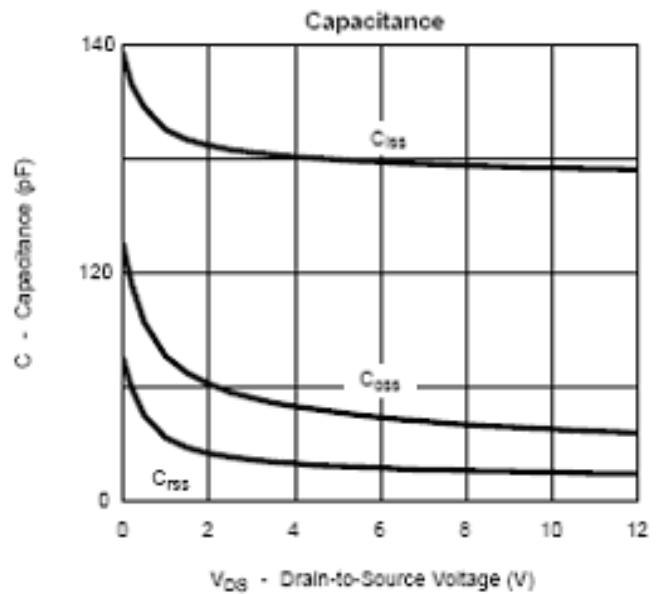
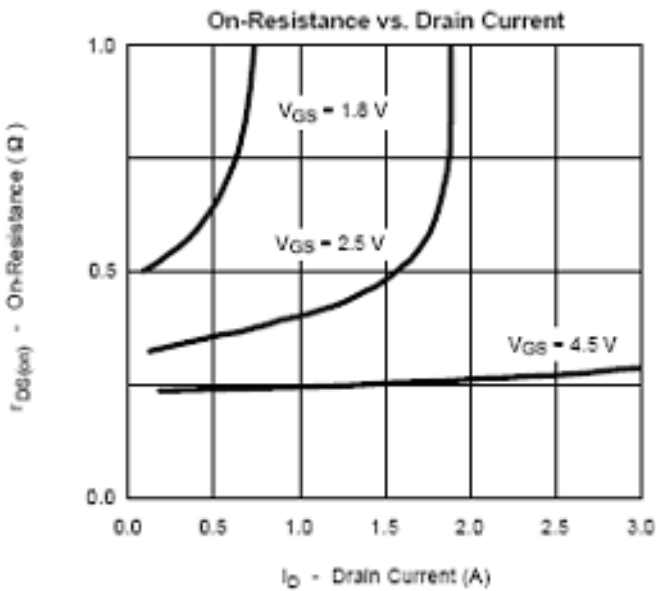
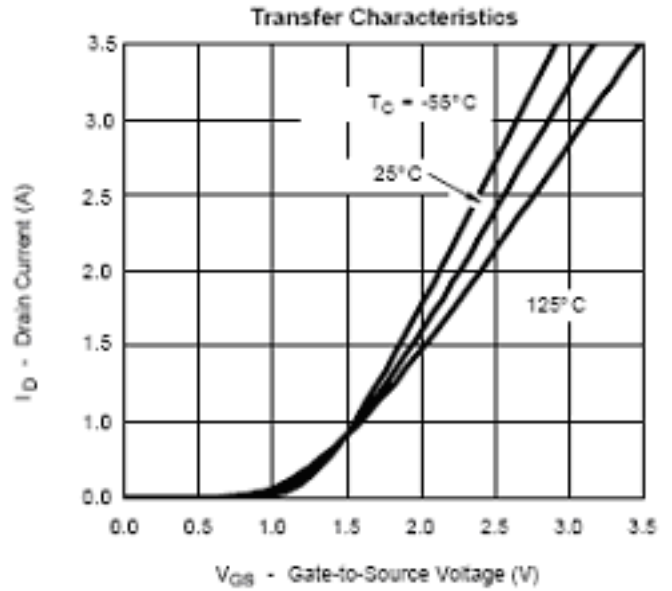
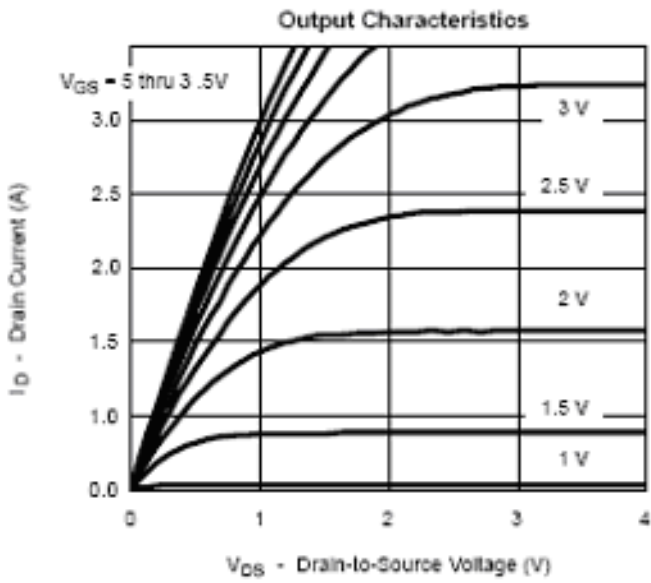
Parameter Symbol		Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$ -30				V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$ -0.35			-1.0	
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 12V$			± 30	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-24V, V_{GS}=0V$			-1	μA
		$V_{DS}=-24V, V_{GS}=0V$ $T_J=55^\circ C$			-5	
On-State Drain Current	$I_{D(on)}$	$V_{DS}\leq -4.5V, V_{GS}=-5V$	-0.7			A
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-4.5V, I_D=-0.45A$			0.65	Ω
		$V_{GS}=-2.5V, I_D=-0.35A$			0.90	
		$V_{GS}=-1.8V, I_D=-0.25A$			1.50	
Forward Transconductance	g_{fs}	$V_{DS}=-10V, I_D=-0.25A$		0.4		S
Diode Forward Voltage	V_{SD}	$I_S=-0.15A, V_{GS}=0V$		-0.8	-1.2	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=-10V, V_{GS}=-4.5V, I_D$ $\equiv -0.6A$	1.5		2.0	nC
Gate-Source Charge	Q_{gs}		0.3			
Gate-Drain Charge	Q_{gd}		0.35			
Turn-On Time	$t_{d(on)}$	$V_{DD}=-10V, R_L=10\Omega,$ $I_D\equiv -0.4A$ $V_{GEN}=-4.5V, R_G=6\Omega$	5		10	ns
	t_r			15	25	
Turn-Off Time	$t_{d(off)}$		8		15	
	t_f			1.4	1.8	



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TYPICAL CHARACTERISTICS

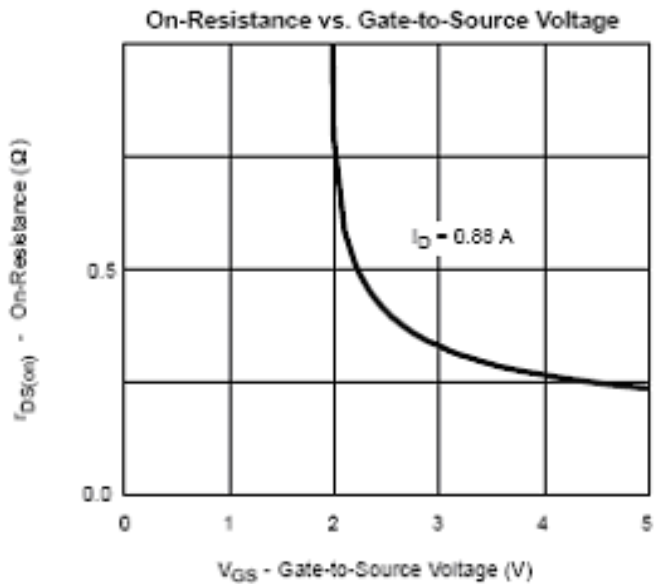
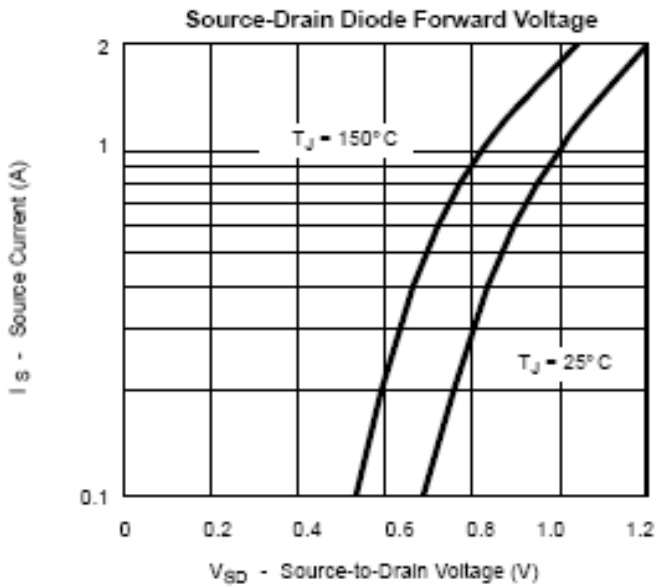
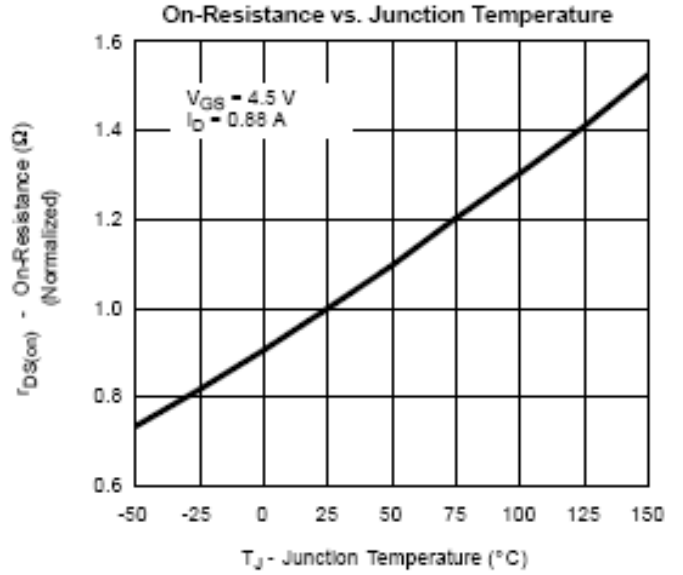
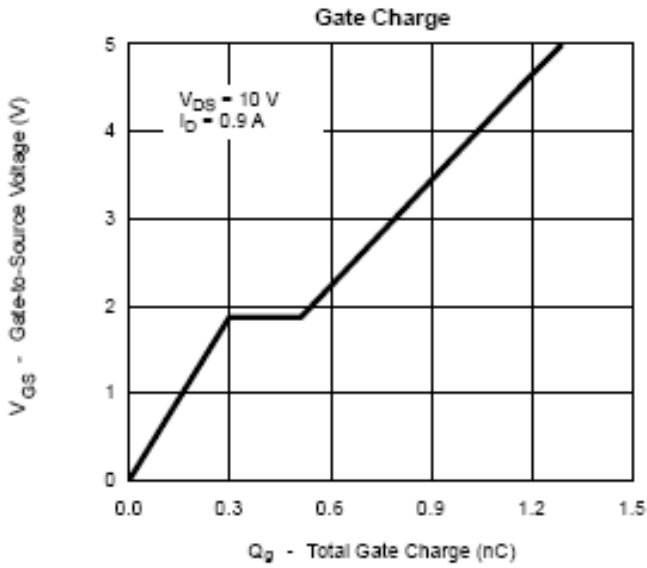




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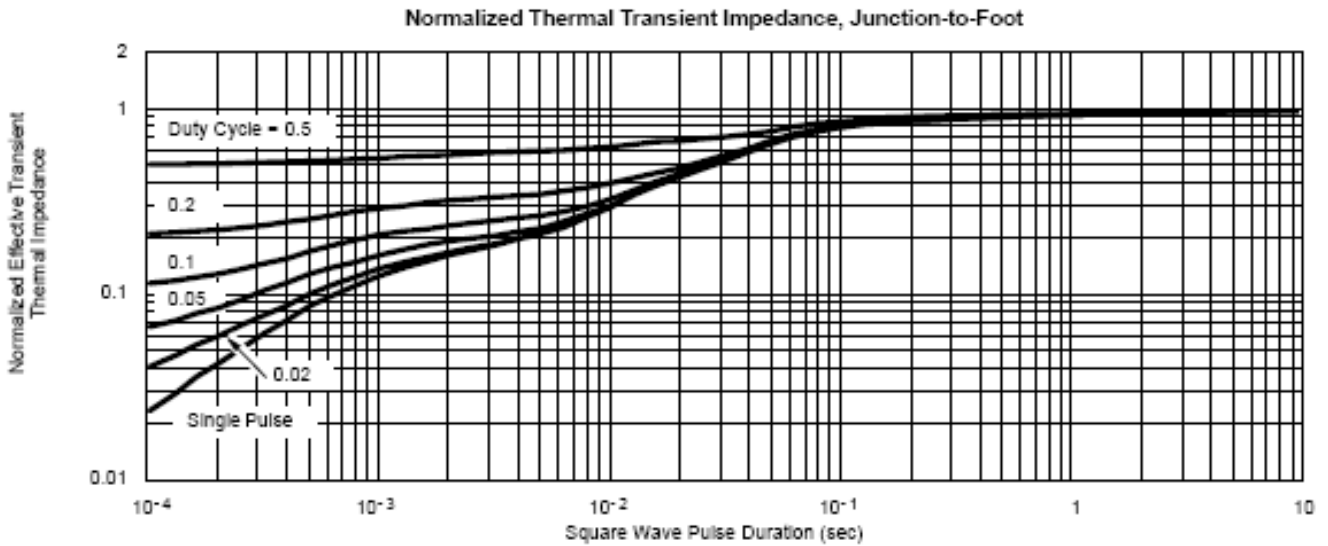
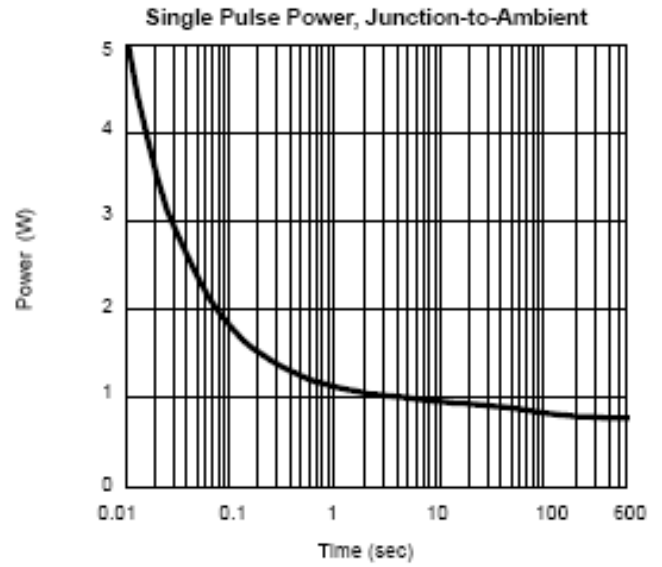
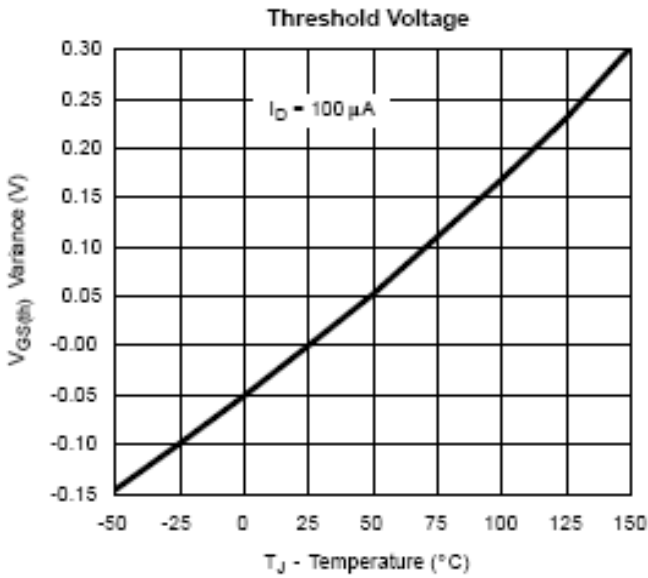




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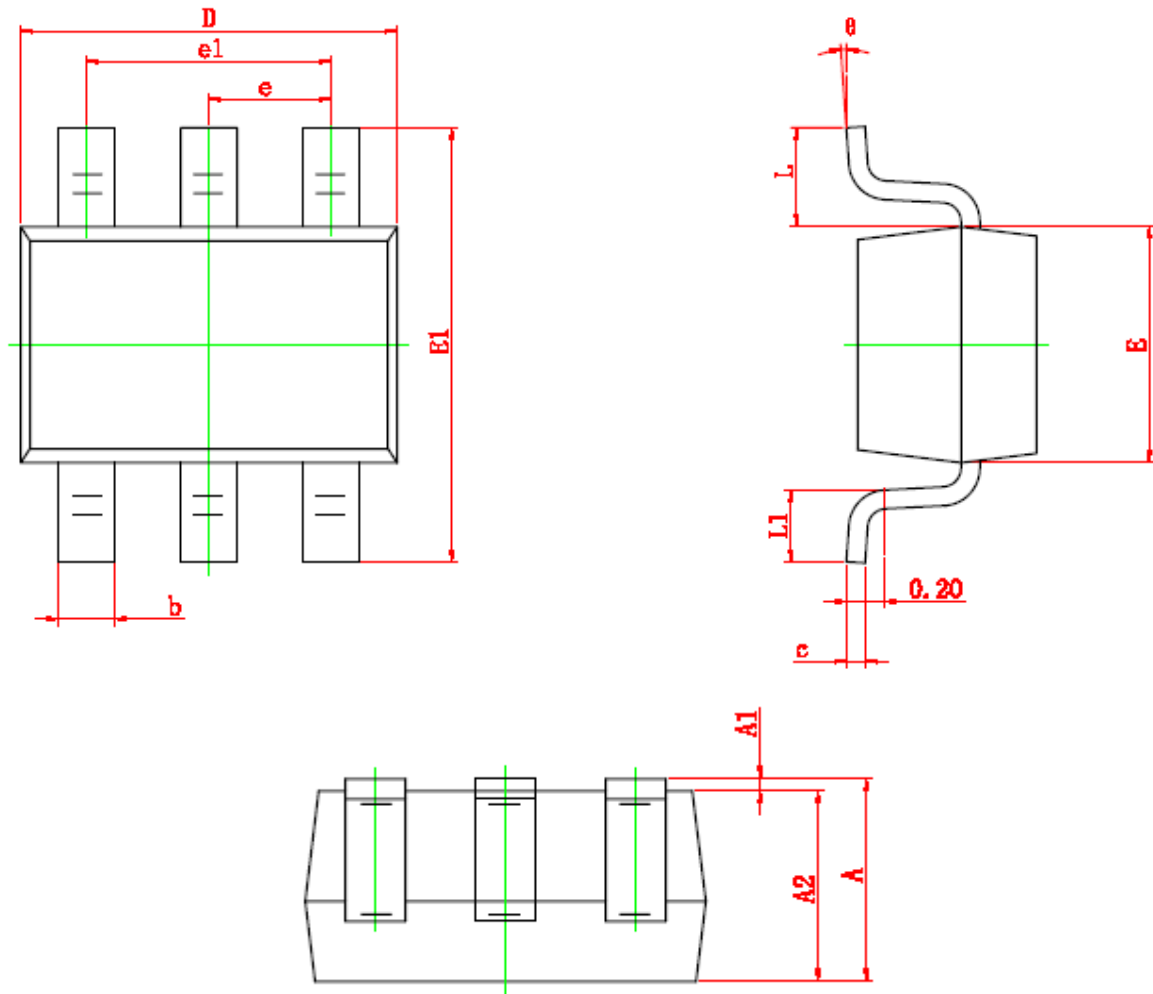


SOT-363 PACKAGE OUTLINE



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Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°



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SYNC Power Corporation
7F-2, No.3-1, Park Street
NanKang District (NKSP), Taipei, Taiwan 115
Phone: 886-2-2655-8178
Fax: 886-2-2655-8468
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