



SPP2095

P-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPP2095 is the P-Channel logic 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. These devices are particularly suited for low voltage application, such as DC/DC converter and Desktop computer power management.

The package is universally preferred for commercial industrial surface mount applications

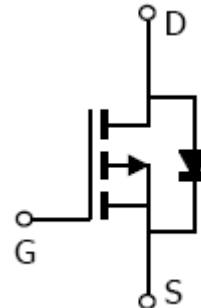
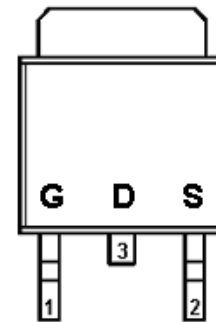
FEATURES

- ◆ -20V/-6.0A, $R_{DS(ON)}=65m\Omega@V_{GS}=-4.5V$
- ◆ -20V/-3.6A, $R_{DS(ON)}=850m\Omega@V_{GS}=-2.5V$
- ◆ -20V/-2.0A, $R_{DS(ON)}=105m\Omega@V_{GS}=-1.8V$
- ◆ Super high density cell design for extremely low RDS (ON)
- ◆ Exceptional on-resistance and maximum DC current capability
- ◆ TO-252-2L package design

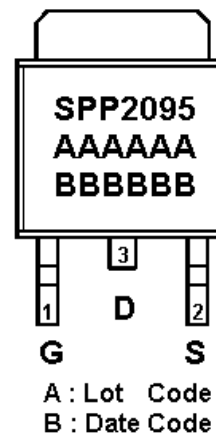
APPLICATIONS

- Power Management in Desktop Computer
- DC/DC Converter
- LCD Display inverter

PIN CONFIGURATION (TO-252-2L)



PART MARKING





SPP2095

P-Channel Enhancement Mode MOSFET

PIN DESCRIPTION

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

ORDERING INFORMATION

Part Number	Package	Part Marking
SPP2095T252RG	TO-252-2L	SPP2095
SPP2095T252RGB	TO-252-2L	SPP2095

- ※ Week Code : A ~ Z (1 ~ 26) ; a ~ z (27 ~ 52)
- ※ SPP2095T252RG : Tape Reel ; Pb – Free
- ※ SPP2095T252RGB : Tape Reel ; Pb – Free ; Halogen -Free

ABSOLUTE MAXIMUM RATINGS

(TA=25°C Unless otherwise noted)

Parameter	Symbol	Typical	Unit	
Drain-Source Voltage	V _{DSS}	-20	V	
Gate –Source Voltage	V _{GSS}	±12	V	
Continuous Drain Current(T _J =150°C)	I _D	TA=25°C	-12	A
		TA=70°C	-8	
Pulsed Drain Current	I _{DM}	-20	A	
Continuous Source Current(Diode Conduction)	I _S	-12	A	
Power Dissipation	P _D	TA=25°C	40	W
		TA=70°C	20	
Operating Junction Temperature	T _J	-55/150	°C	
Storage Temperature Range	T _{STG}	-55/150	°C	
Thermal Resistance-Junction to Ambient	R _{θJA}	105	°C/W	



SPP2095

P-Channel Enhancement Mode MOSFET

ELECTRICAL CHARACTERISTICS

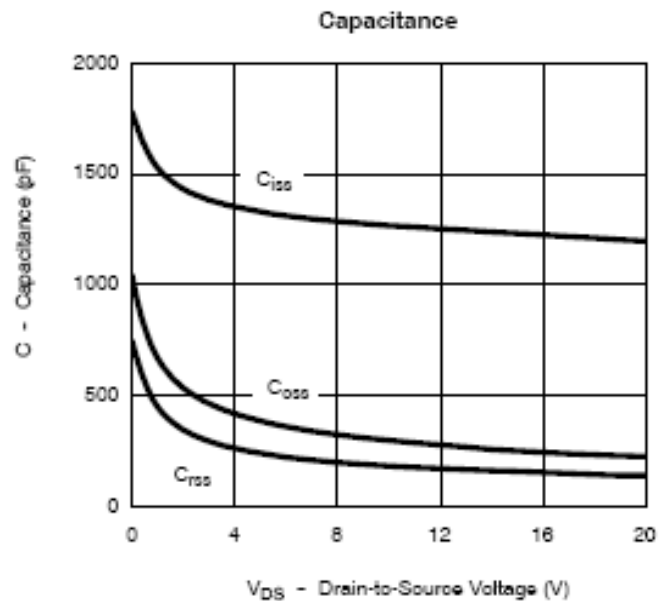
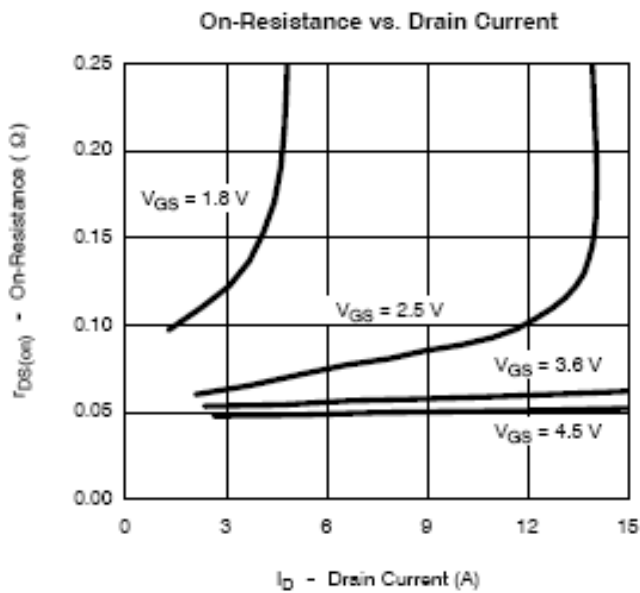
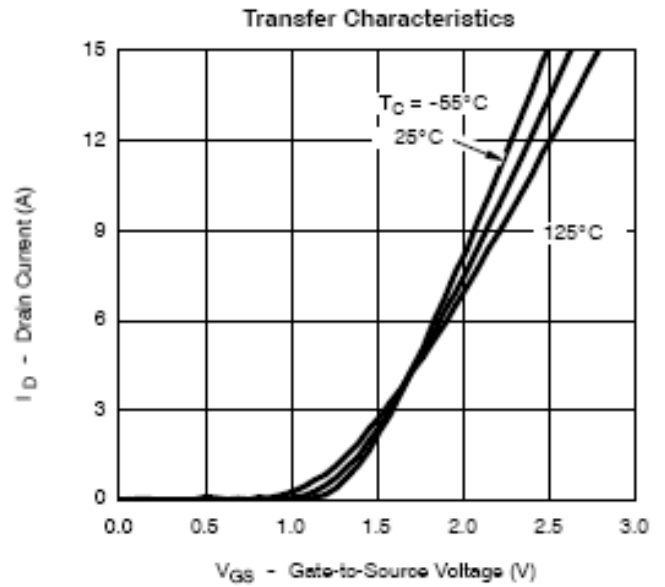
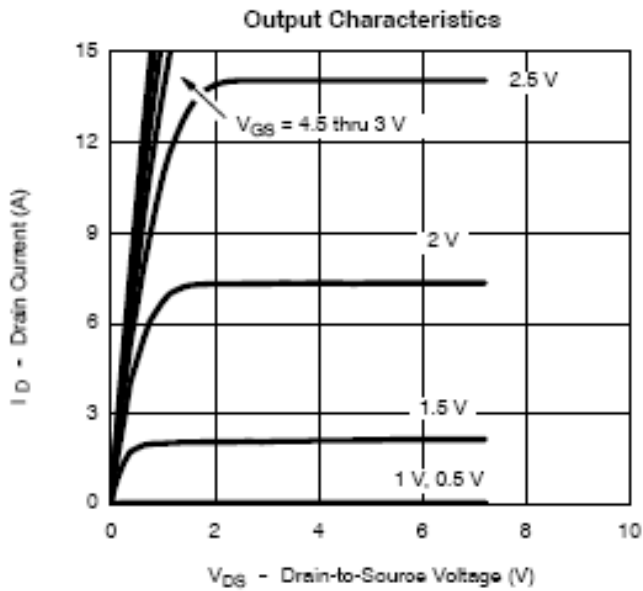
(TA=25°C Unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-20			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.32		-0.8	
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 12V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-20V, V_{GS}=0V$			-1	uA
		$V_{DS}=-20V, V_{GS}=0V$ $T_J=55^\circ C$			-5	
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-4.5V, I_D=-6.0A$		0.055	0.065	Ω
		$V_{GS}=-2.5V, I_D=-3.6A$		0.072	0.085	
		$V_{GS}=-1.8V, I_D=-2.0A$		0.092	0.105	
Forward Transconductance	g_{fs}	$V_{DS}=-5V, I_D=-2.8A$		6		S
Diode Forward Voltage	V_{SD}	$I_S=-6A, V_{GS}=0V$		-0.8	-1.2	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=-10V, V_{GS}=-4.5V$ $I_D=-8.0A$		4.8	8	nC
Gate-Source Charge	Q_{gs}			1.0		
Gate-Drain Charge	Q_{gd}			1.0		
Input Capacitance	C_{iss}	$V_{DS}=-10V, V_{GS}=0V$ $f=1MHz$		485		pF
Output Capacitance	C_{oss}			85		
Reverse Transfer Capacitance	C_{rss}			40		
Turn-On Time	$t_{d(on)}$	$V_{DD}=-10V, R_L=6\Omega$ $I_D=-1.0A, V_{GEN}=-4.5V$ $R_G=6\Omega$		10	16	ns
	t_r			13	23	
Turn-Off Time	$t_{d(off)}$			18	25	
	t_f			15	20	



SPP2095 P-Channel Enhancement Mode MOSFET

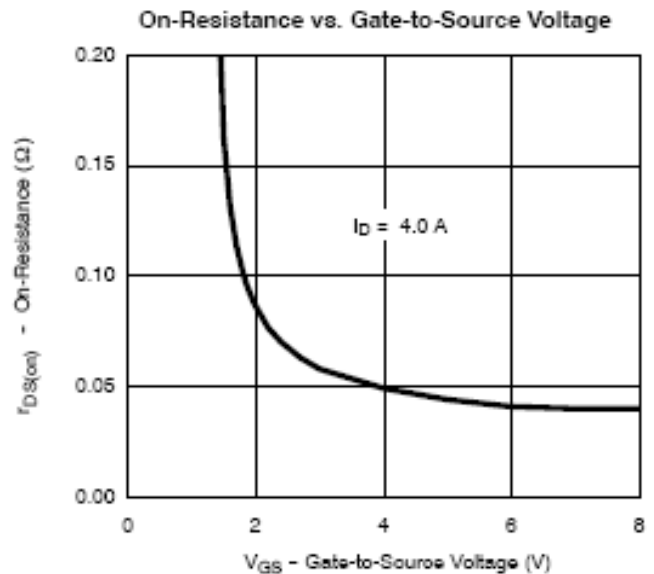
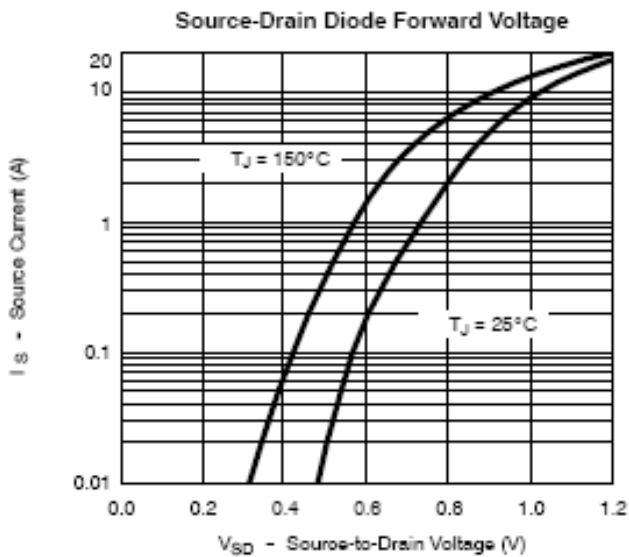
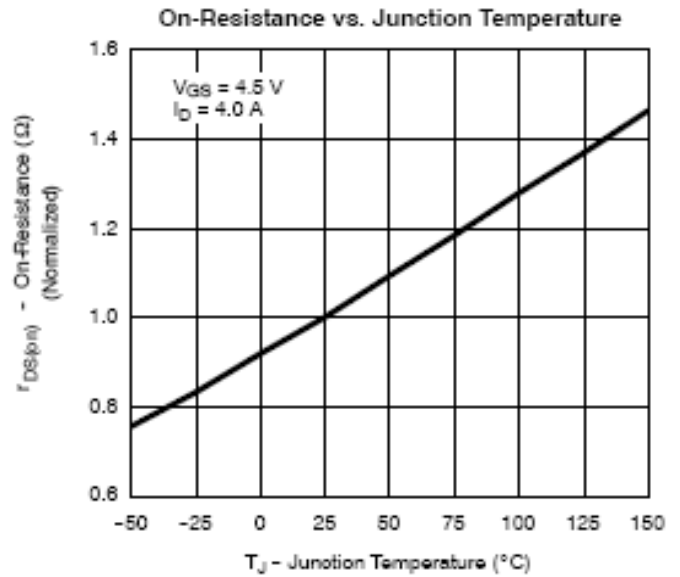
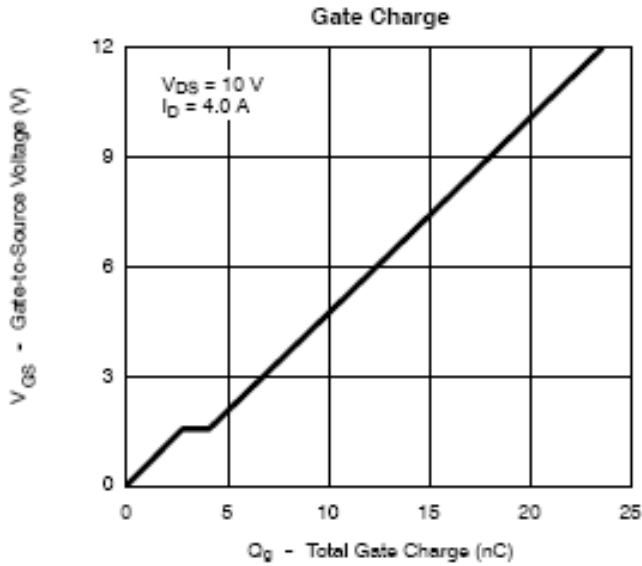
TYPICAL CHARACTERISTICS





SPP2095 P-Channel Enhancement Mode MOSFET

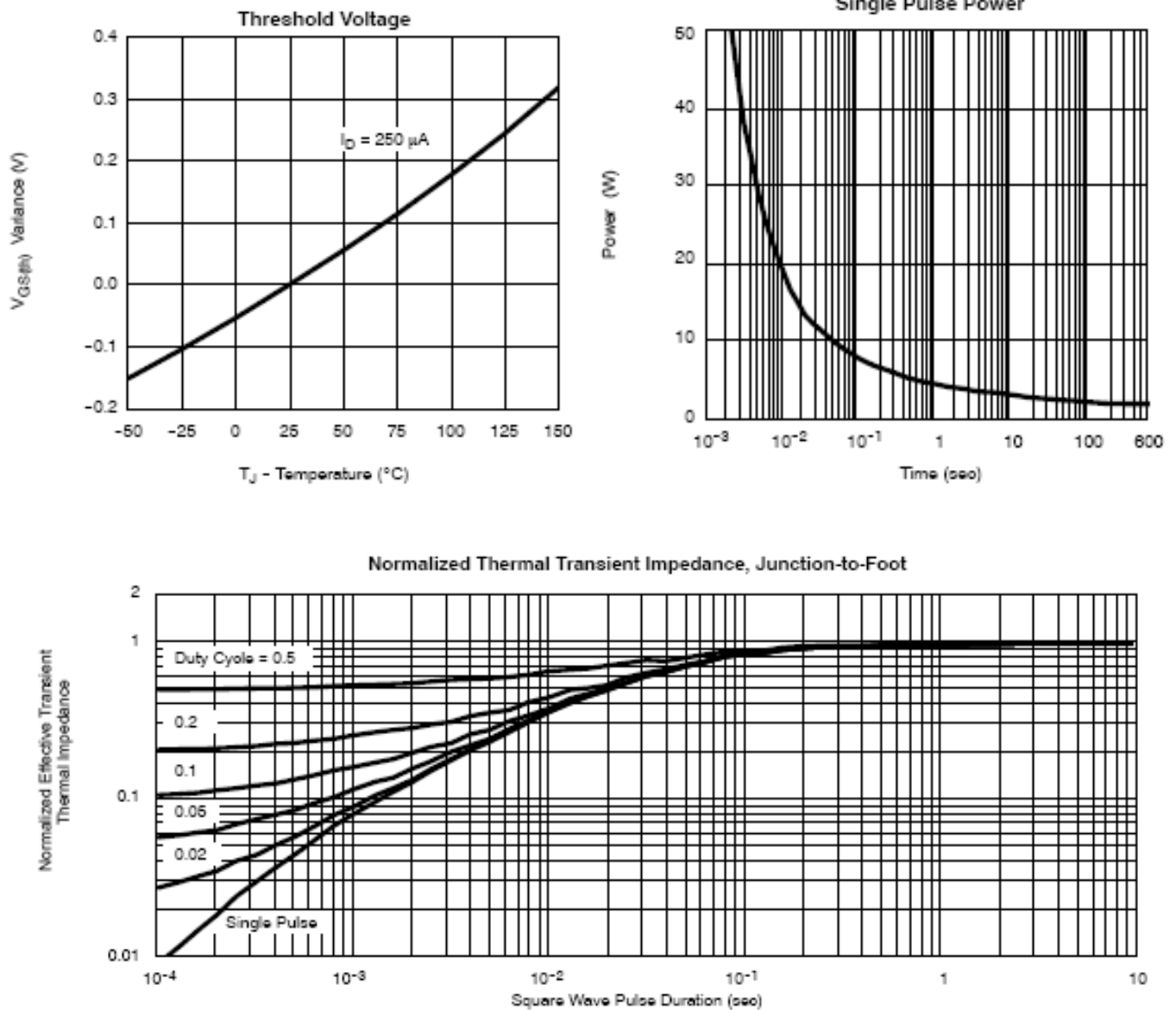
TYPICAL CHARACTERISTICS





SPP2095 P-Channel Enhancement Mode MOSFET

TYPICAL CHARACTERISTICS

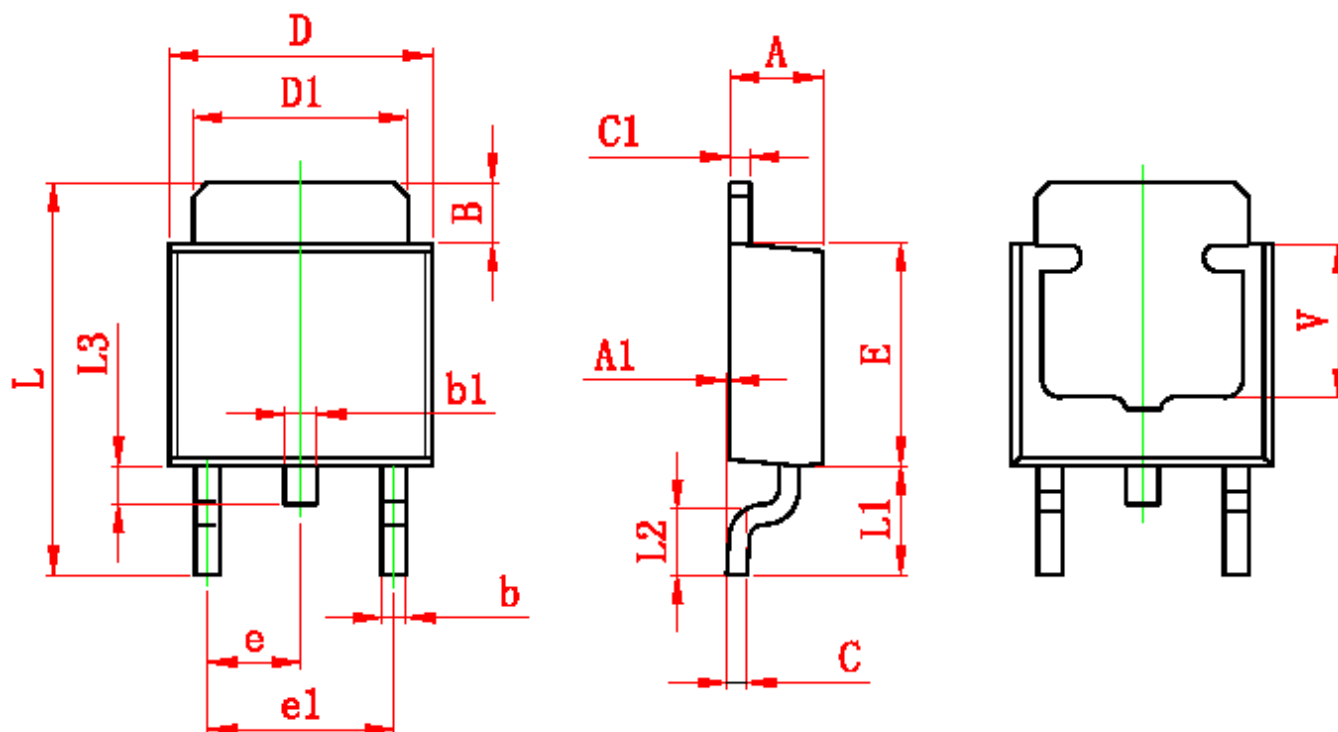




SPP2095

P-Channel Enhancement Mode MOSFET

TO-252-2L PACKAGE OUTLINE



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
B	1.350	1.650	0.053	0.065
b	0.500	0.700	0.020	0.028
b1	0.700	0.900	0.028	0.035
c	0.430	0.580	0.017	0.023
c1	0.430	0.580	0.017	0.023
D	6.350	6.650	0.250	0.262
D1	5.200	5.400	0.205	0.213
E	5.400	5.700	0.213	0.224
e	2.300 TYP.		0.091 TYP.	
e1	4.500	4.700	0.177	0.185
L	9.500	9.900	0.374	0.390
L1	2.550	2.900	0.100	0.114
L2	1.400	1.780	0.055	0.070
L3	0.600	0.900	0.024	0.035
V	3.800 REF.		0.150 REF.	



SPP2095

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

©2004 SYNC Power Corporation – Printed in Taiwan – All Rights Reserved

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

©<http://www.syncpower.com>