

FKP280A

September, 2005

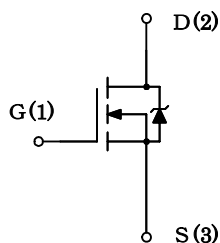
■Features

- Low on-resistance
- Low input capacitance
- Avalanche energy capability guaranteed

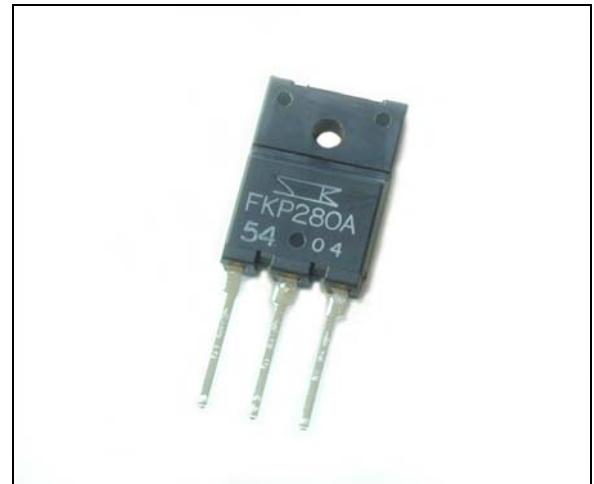
■Applications

- PDP driving
- High speed switching

■Equivalent circuit



■Package---FM100(TO3P Full Mold)



■Absolute maximum ratings

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain to Source Voltage	VDSS	280	V
Gate to Source Voltage	VGSS	±30	V
Continuous Drain Current	ID	±40A	A
Pulsed Drain Current	ID(pulse) *1	±160A	A
Maximum Power Dissipation	PD	85 (Tc=25°C)	W
Single Pulse Avalanche Energy	EAS *2	400	mJ
Avalanche Current	IAS	40	A
Channel Temperature	Tch	150	°C
Storage Temperature	Tstg	-55 to +150	°C

*1. PW ≤ 100 μsec, duty cycle ≤ 1%

*2. VDD=20V, L=460μH, ILp=40A, unclamped, RG=50Ω, See Fig.1

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Electrical characteristics

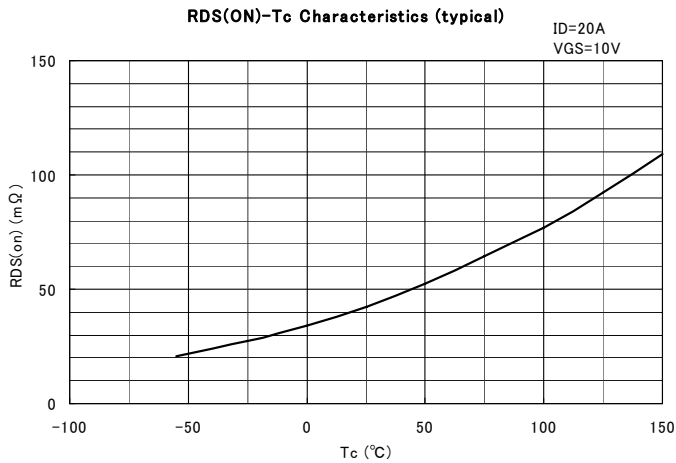
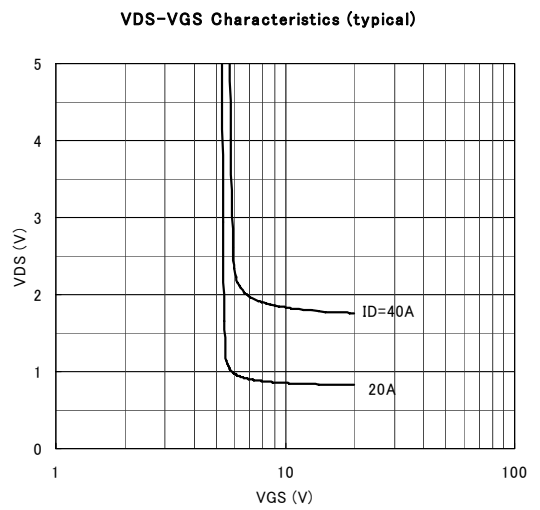
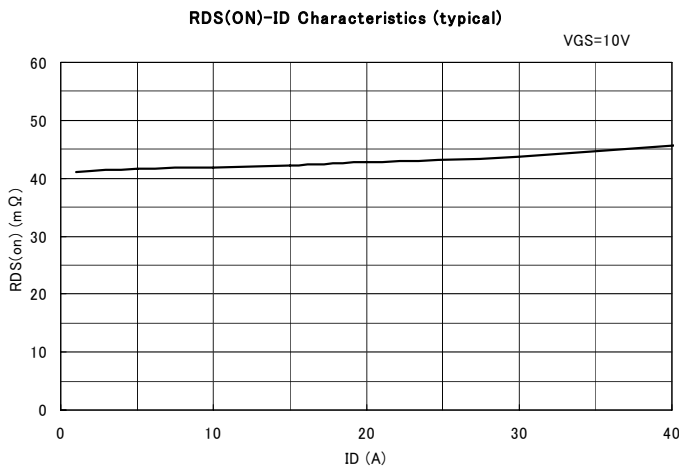
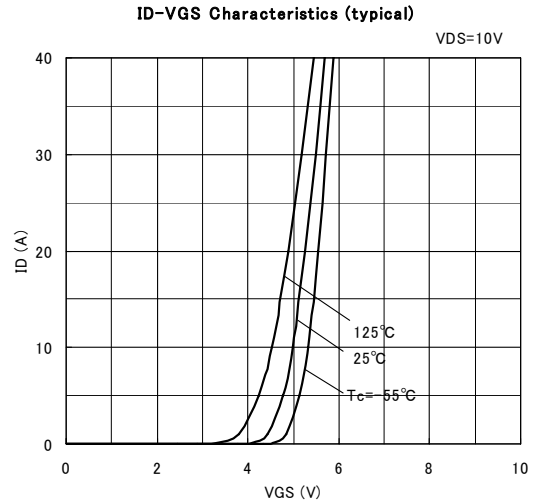
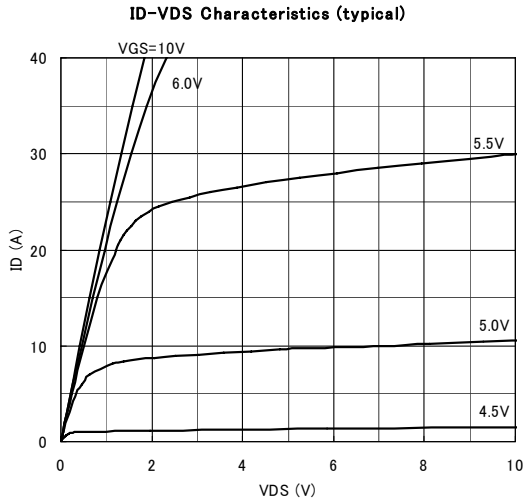
(Ta=25°C)

Parameter	Symbol	Test Conditions	Limits			Unit
			MIN.	TYP.	MAX.	
Drain to Source breakdown Voltage	V(BR)DSS	ID=100μA, VGS=0V	280			V
Gate to Source Leakage Current	IGSS	VGS=±30V			±100	nA
Drain to Source Leakage Current	IDSS	VDS=280V, VGS=0V			100	μA
Gate Threshold Voltage	VTH	VDS=10V, ID=1mA	3.0		4.5	V
Forward Transconductance	Re(Yfs)	VDS=10V, ID=20A	25	38		S
Static Drain to Source On-Resistance	RDS(ON)	ID=20A, VGS=10V		46	53	mΩ
Input Capacitance	Ciss	VDS=25V		3800		pF
Output Capacitance	Coss	VGS=0V		580		
Reverse Transfer Capacitance	Crss	f=1MHz		190		
Turn-On Delay Time	td(on)	ID=20A, VDD≈140V		40		ns
Rise Time	tr	RL=7Ω, VGS=10V		90		
Turn-Off Delay Time	td(off)	Rg=5Ω		160		
Fall Time	tf	See Fig.2		70		
Source-Drain Diode Forward Voltage	VSD	ISD=40A, VGS=0V		1.0	1.5	V
Gate Threshold Voltage Temp. Coefficient	ΔVTH/ΔTch	VDS=10V, ID=1mA		-11		mV/°C

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Characteristic Curves (Tc=25°C)



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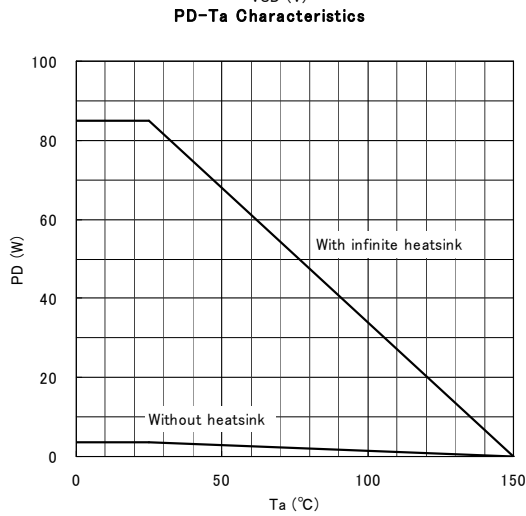
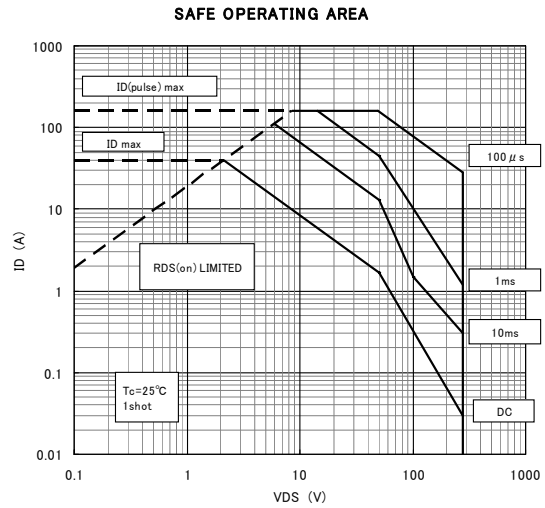
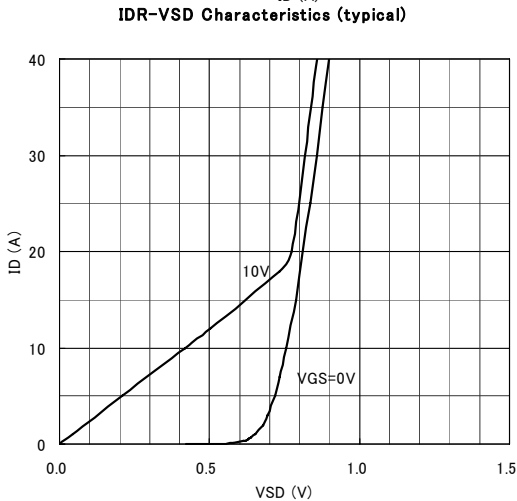
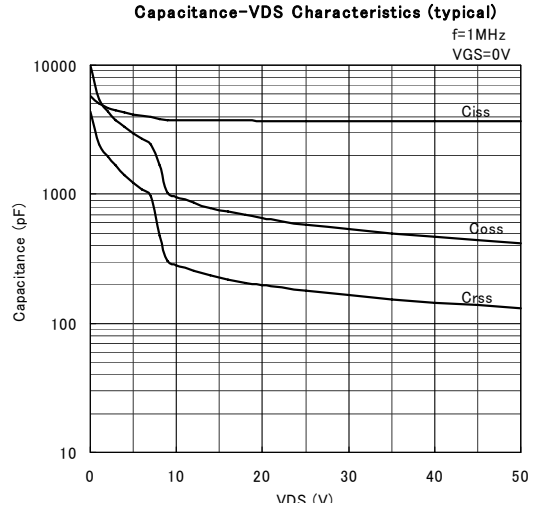
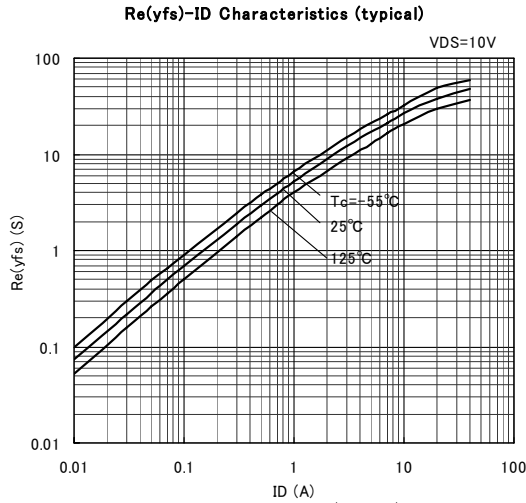


Fig.1 Unclamped Inductive Test Method

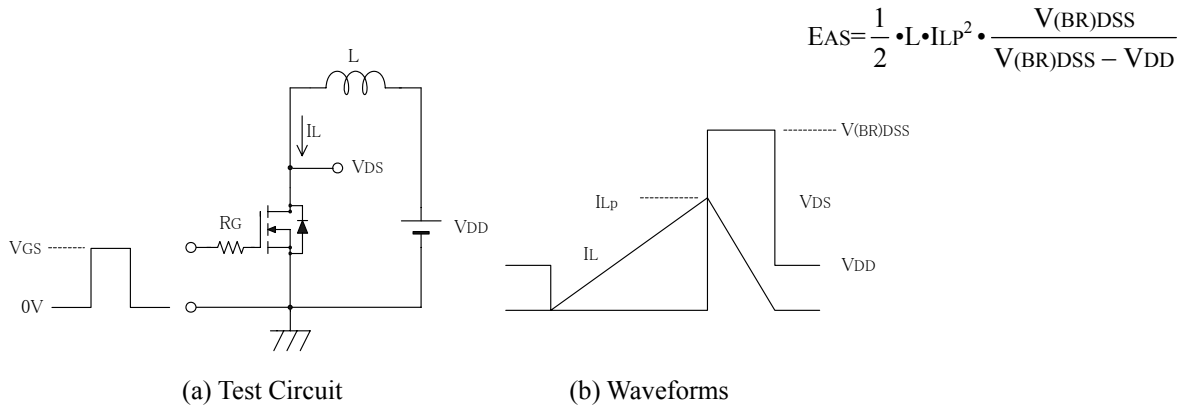
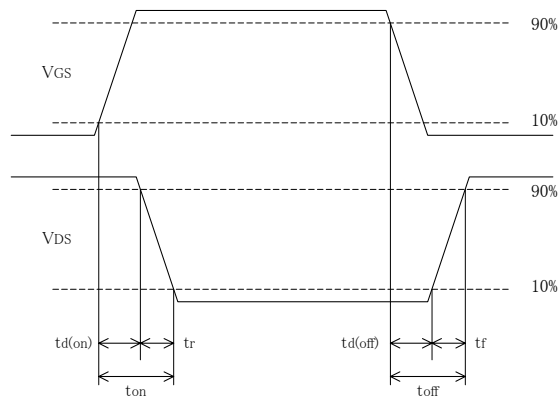
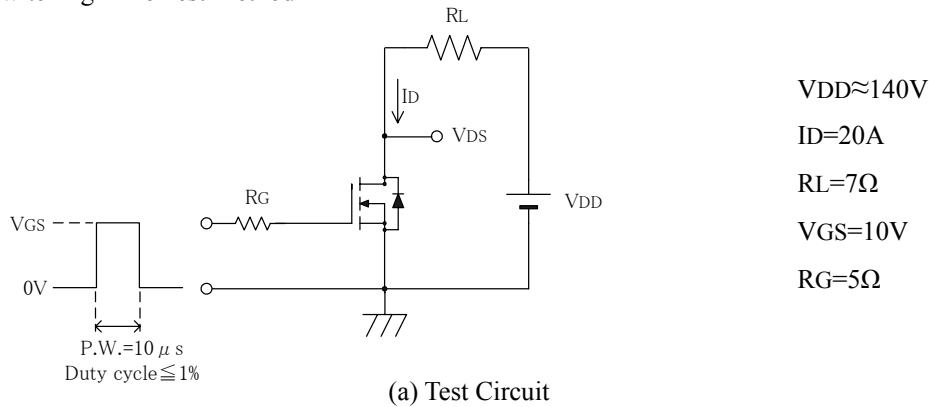


Fig.2 Switching Time Test Method



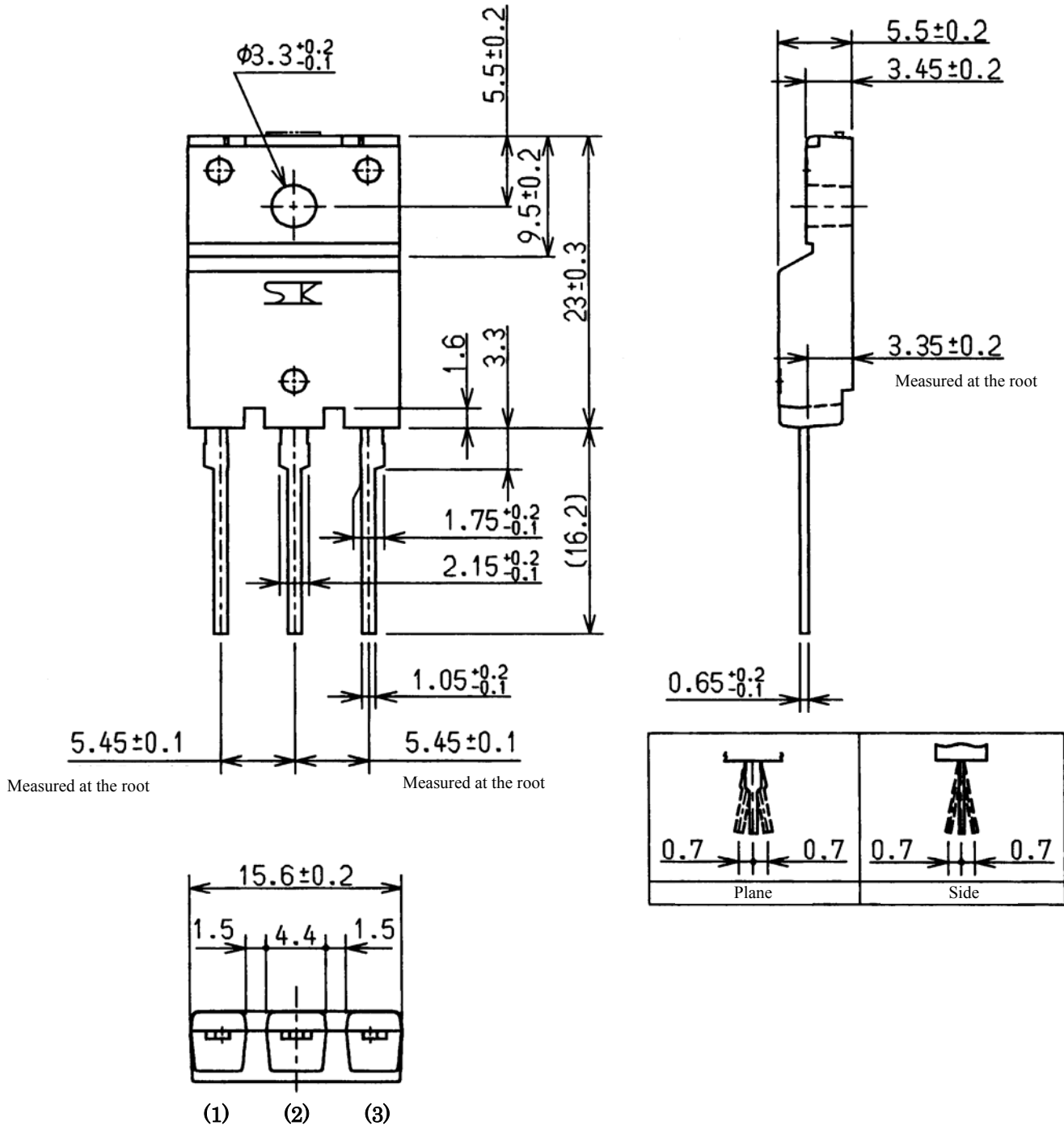
(b) Waveforms

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Outline

FM100 (TO3P Full Mold)



Mass: Approx. 6.5g

<Worldwide Contacts>

Asia Pacific

China

Sanken Electric Hong Kong Co., Ltd.

Suite 1026 Ocean Centre, Canton Road, Tsimshatsui, Kowloon, Hong Kong

Tel: 852-2735-5262

Fax: 852-2735-5494

Sanken Electric (Shanghai) Co., Ltd.

Room3202, Maxdo Centre, Xingyi Road 8, Changning district, Shanghai, China

Tel: 86-21-5208-1177

Fax: 86-21-5208-1757

Taiwan Sanken Electric Co., Ltd.

Room 1801, 18th Floor, 88 Jung Shiau East Road, Sec. 2, Taipei 100, Taiwan R.O.C.

Tel: 886-2-2356-8161

Fax: 886-2-2356-8261

India

Saket Devices Pvt. Ltd.

Office No.13, First Floor, Bandal - Dhankude Plaza, Near PMT Depot, Paud Road, Kothrud, Pune - 411 038, India

Tel: 91-20-5621-2340

91-20-2528-5449

Fax: 91-20-2528-5459

Japan

Sanken Electric Co., Ltd. Overseas Sales Headquarters

Metropolitan Plaza Bldg. 1-11-1 Nishi-Ikebukuro, Toshima-ku, Tokyo 171-0021, Japan

Tel: 81-3-3986-6164

Fax: 81-3-3986-8637

Korea

Sanken Electric Korea Co., Ltd.

Mirae Asset Life Bldg. 6F, 168 Kongduk-dong, Mapo-ku, Seoul, 121-705, Korea

Tel: 82-2-714-3700

Fax: 82-2-3272-2145

Singapore

Sanken Electric Singapore Pte. Ltd.

150 Beach Road, #14-03 The Gateway West, Singapore 189720

Tel: 65-6291-4755

Fax: 65-6297-1744

N-Channel MOS FET

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Europe

United Kingdom

Sanken Power Systems (UK) Limited

Pencoed Technology Park, Pencoed, Bridgend CF35 5HY. UK

Tel: 44-1656-869-100

Fax: 44-1656-869-162

North America

United States

Allegro MicroSystems, Inc.

115 Northeast Cutoff, Worcester, Massachusetts 01606, U.S.A.

Tel: 1-508-853-5000

Fax: 1-508-853-3353

Allegro MicroSystems, Inc. (Southern California)

14 Hughes Street, Suite B105, Irvine, CA 92618

Tel: 1-949-460-2003

Fax: 1-949-460-7837

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