
HL6733FM

Visible High Power Laser Diode

HITACHI

ADE-208-516B (Z)
3rd Edition
May 1, 1998

Description

The HL6733FM is a 0.68 μm band AlGaInP laser diode (LD) with a multi-quantum well (MQW) structure. It is suitable as a light source for large capacity optical disc memories and various other types of optical equipment.

It does not have a photodiode, and the GND pin is not connected with the LD chip. The outline is the same as MG-type (5.6 mm ϕ).

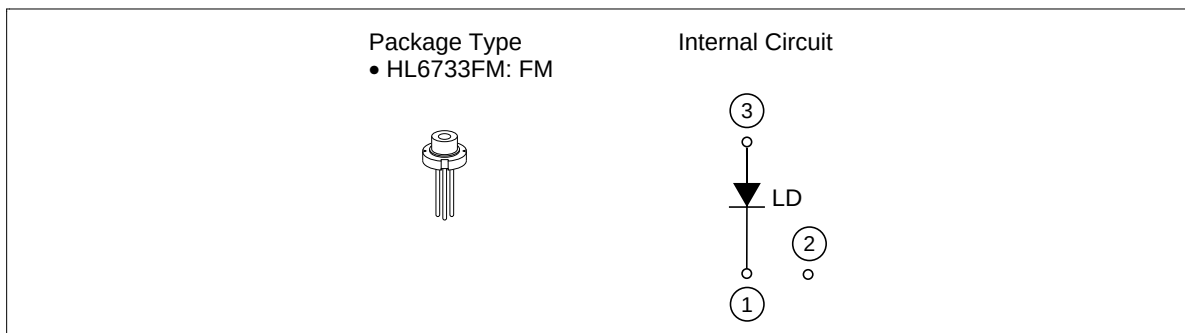
Application

- Optical disc memories.
- Optical equipment.

Features

- High output power : 35 mW (CW)
- Visible light output : $\lambda_p = 675$ to 695 nm
- Small package : ϕ 5.6 mm
- Low astigmatism : 6 μm Typ ($P_o = 5$ mW)

Internal Circuit



HL6733FM

Absolute Maximum Ratings ($T_C = 25^\circ\text{C}$)

Item	Symbol	Value	Unit
Optical output power	P_O	35	mW
Pulse optical output power	P_O (pulse)	50 *	mW
Laser diode reverse voltage	$V_{R(LD)}$	2	V
Operating temperature	T_{opr}	-10 to +70	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +85	$^\circ\text{C}$

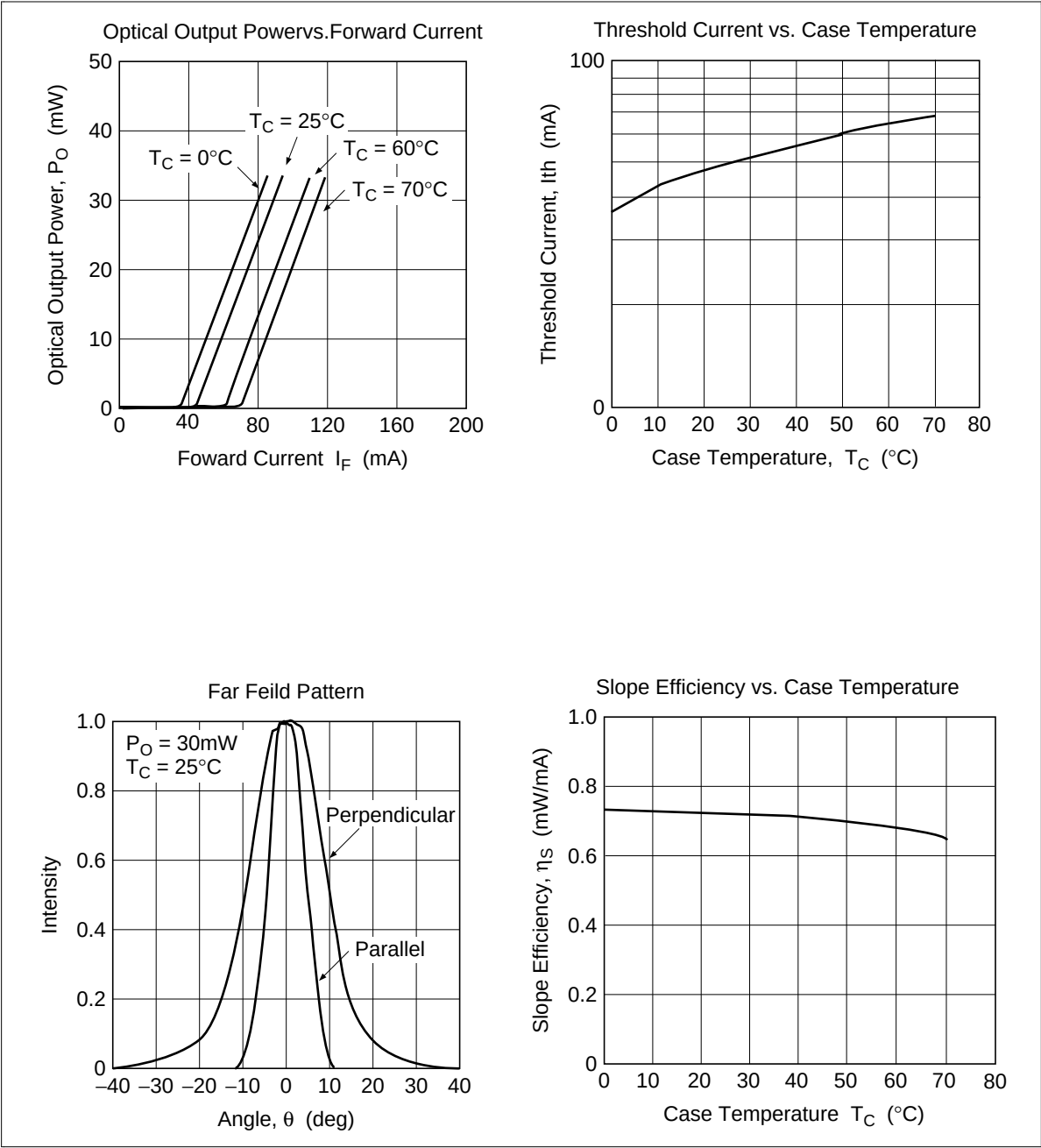
Note: Pulse condition : Pulse width = 100 ns, duty = 50%

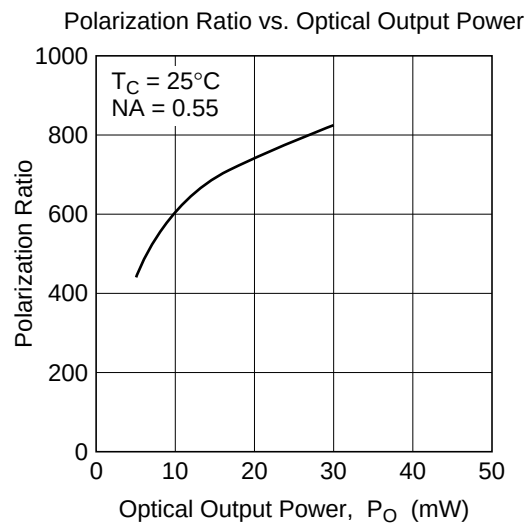
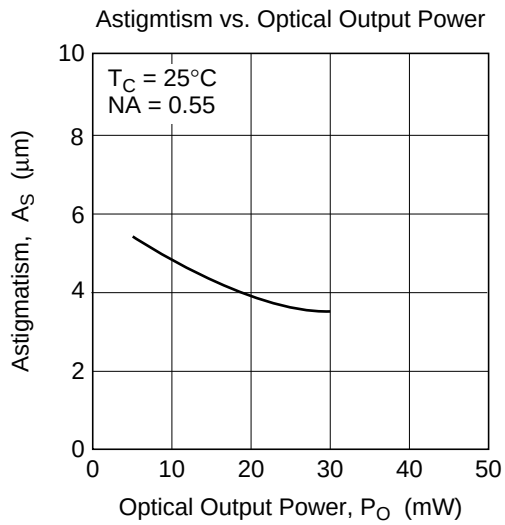
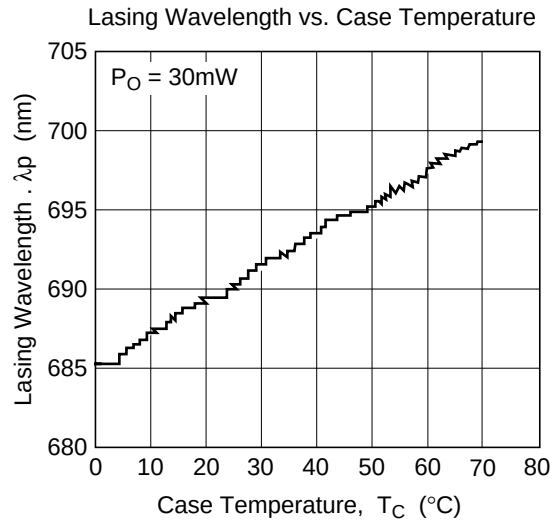
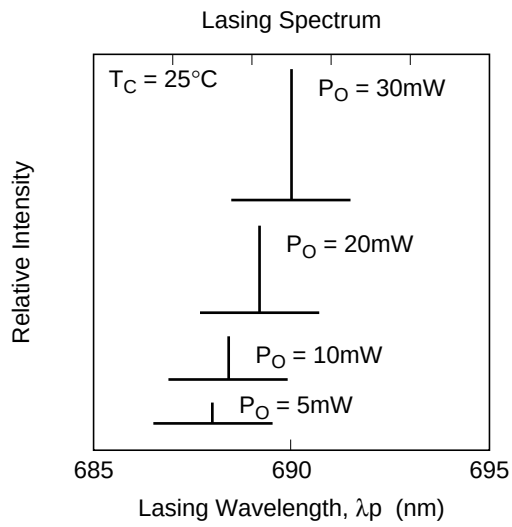
Optical and Electrical Characteristics ($T_C = 25^\circ\text{C}$)

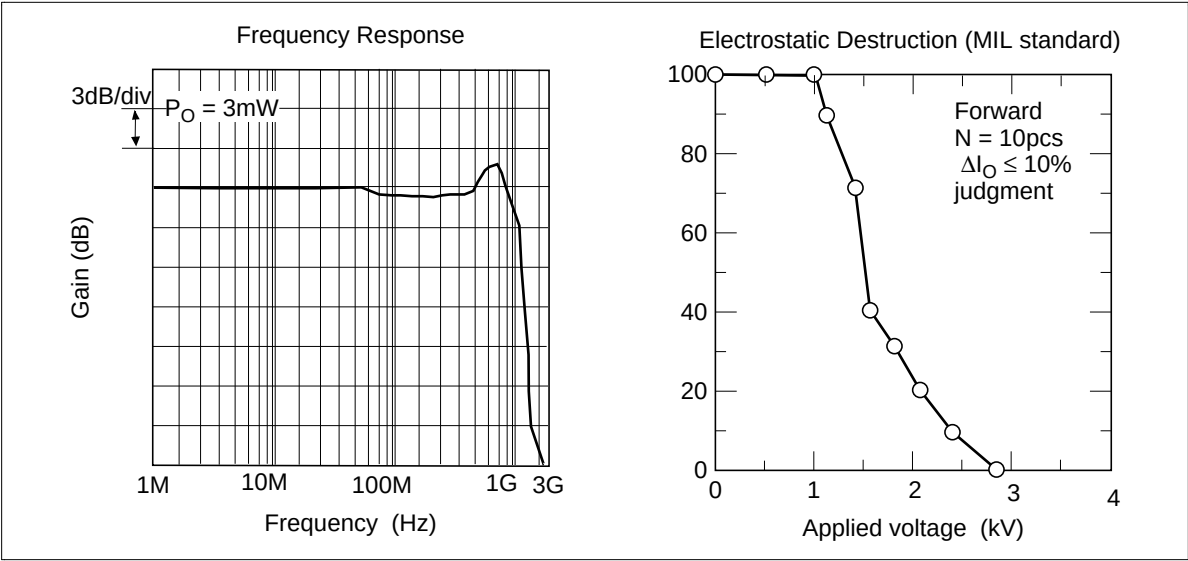
Items	Symbols	Min	Typ	Max	Units	Test Conditions
Optical output power	P_O	35	—	—	mW	Kink free *
Pulse optical output power	$P_{O(pulse)}$	50	—	—	mW	Kink free *
Threshold current	I_{th}	30	45	70	mA	—
Operating voltage	V_{OP}	2.1	2.5	2.8	V	$P_O = 30 \text{ mW}$
Slope efficiency	η_s	0.5	0.7	0.9	mW/mA	$18 \text{ (mW)} / (I_{(24\text{mW})} - I_{(6\text{mW})})$
Lasing wavelength	λ_p	675	690	695	nm	$P_O = 30 \text{ mW}$
Beam divergence parallel to the junction	$\theta_{//}$	7	8.5	11	deg.	$P_O = 30 \text{ mW}$
Beam divergence perpendicular to the junction	$\theta_{\perp}$	17	19	23	deg.	$P_O = 30 \text{ mW}$
Astigmatism	A_s	—	6	—	μm	$P_O = 5 \text{ mW}$, NA = 0.55

Note: Kink free is confirmed at the temperature of 25°C .

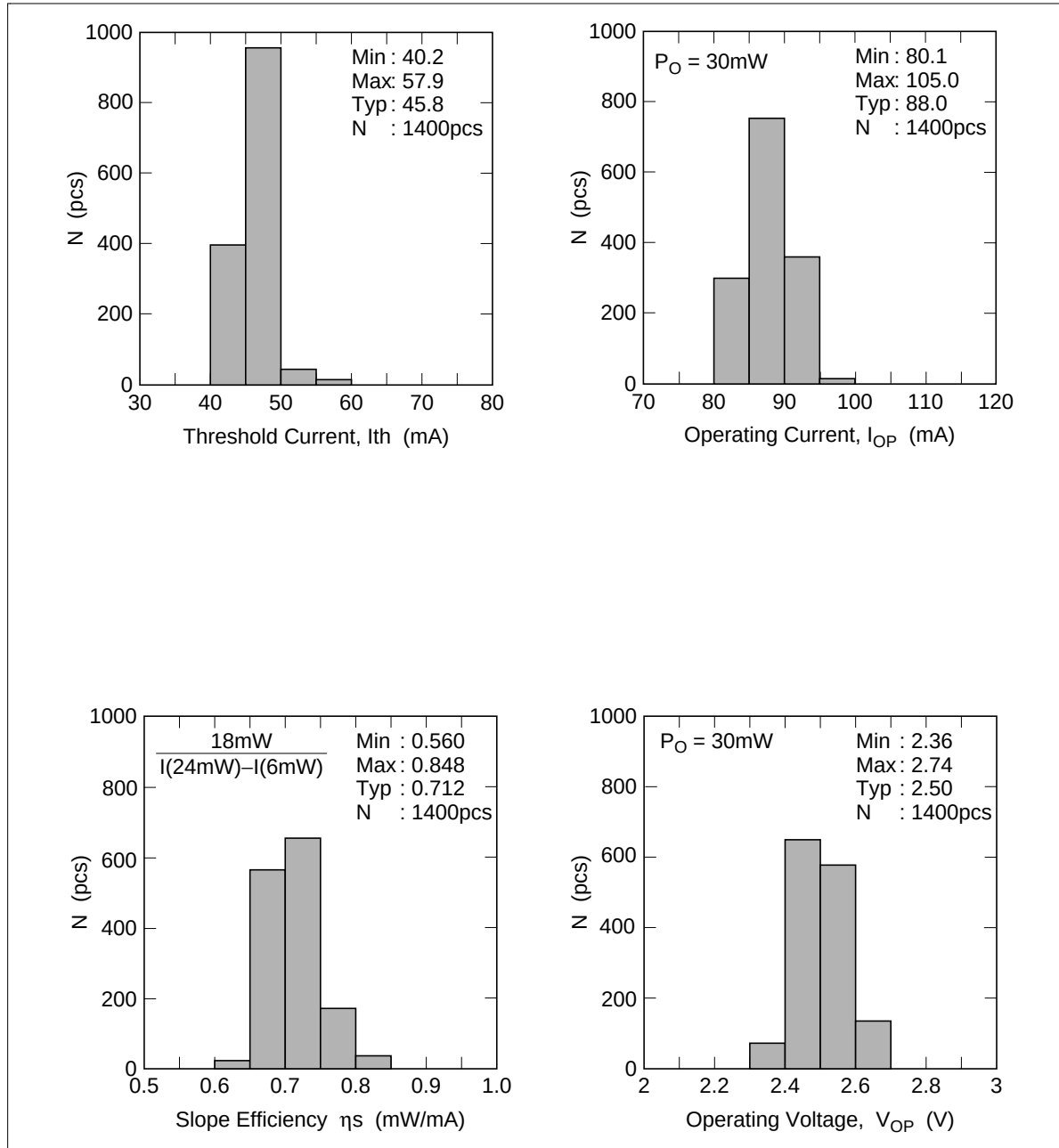
Curve Characteristics

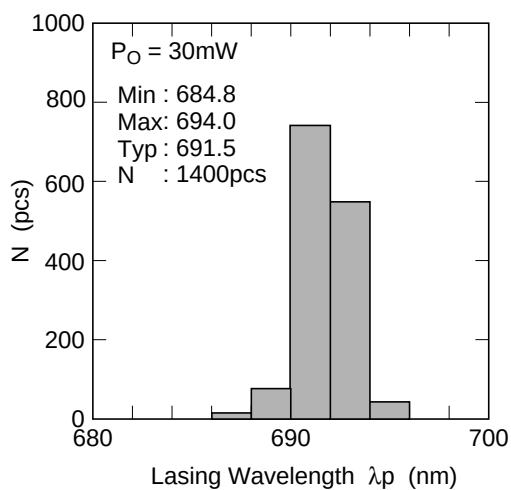
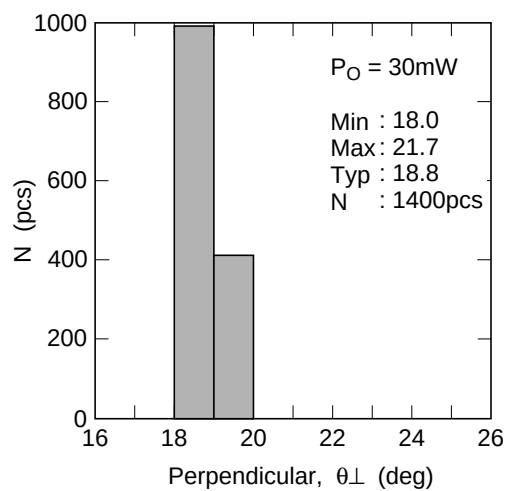
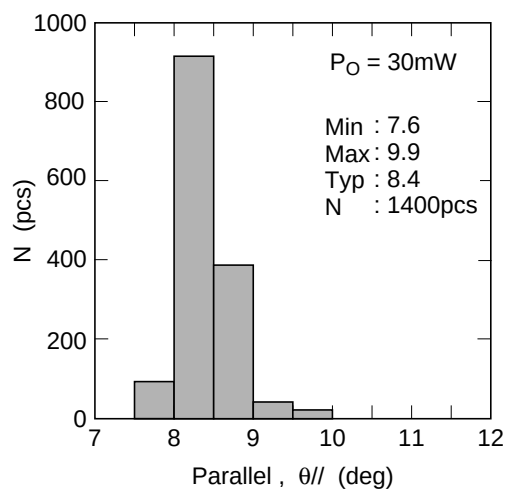






Characteristics Distribution

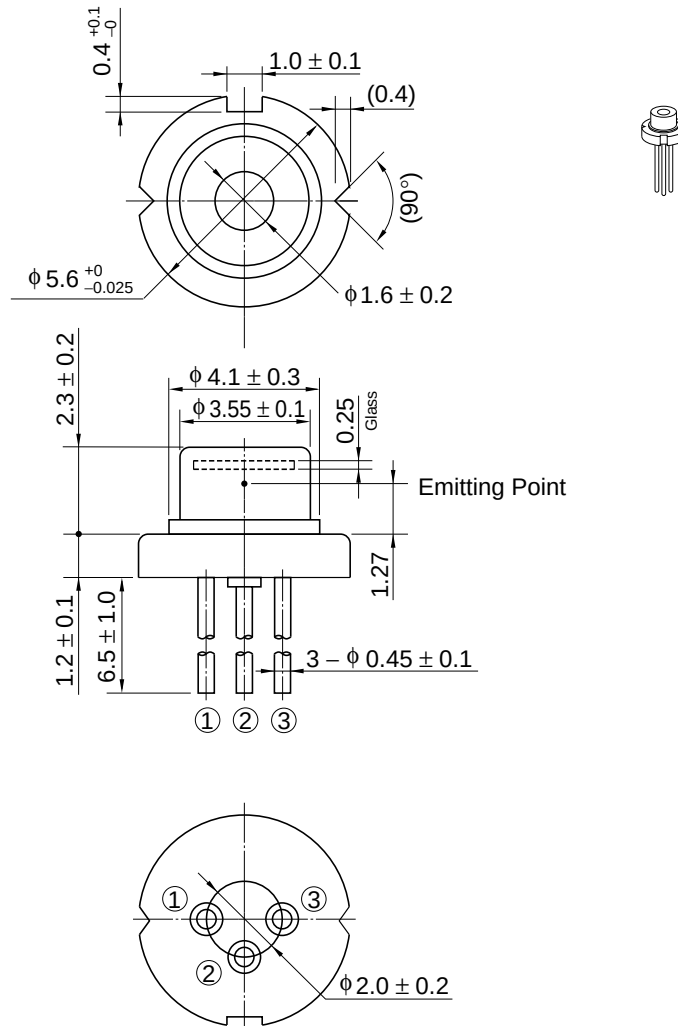




HL6733FM

Package Dimensions

Unit: mm



Hitachi Code	LD/FM
JEDEC	—
EIAJ	—
Weight (reference value)	—

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HITACHI

Hitachi, Ltd.

Semiconductor & IC Div.

Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan

Tel: Tokyo (03) 3270-2111

Fax: (03) 3270-5109

For further information write to:

Hitachi Semiconductor
(America) Inc.
2000 Sierra Point Parkway
Brisbane, CA. 94005-1897
U S A
Tel: 800-285-1601
Fax: 303-297-0447

Hitachi Europe GmbH
Continental Europe
Domacher Straße 3
München
Tel: 089-9 91 80-0
Fax: 089-9 29 30-00

Hitachi Europe Ltd.
Electronic Components Div.
Northern Europe Headquarters
Whitebrook Park
Lower Cookham Road
Maidenhead
Berkshire SL6 8YA
United Kingdom
Tel: 01628-585000
Fax: 01628-585160

Hitachi Asia Pte. Ltd.
16 Collyer Quay #20-00
Hitachi Tower
Singapore 049318
Tel: 535-2100
Fax: 535-1533

Hitachi Asia (Hong Kong) Ltd.
Unit 706, North Tower,
World Finance Centre,
Harbour City, Canton Road
Tsim Sha Tsui, Kowloon
Hong Kong
Tel: 27359218
Fax: 27306071

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