

IL1, IL2, IL5, IL74  
 ILD1, ILD2, ILD5, ILD74  
 ILQ1, ILQ2, ILQ5, ILQ74



**HIGH DENSITY  
 PHOTOTRANSISTOR OPTICALLY  
 COUPLED ISOLATORS**

**APPROVALS**

- UL recognised, File No. E91231  
 IL\* Package 'FF' (marked I\_\_\_ FF)  
 ILD\*/ILQ\* Package 'GG' (marked I\_\_\_ GG)

**'X' SPECIFICATION APPROVALS**

Add 'X' after part number

- VDE 0884 in 3 available lead form : -  
 - STD  
 - G form  
 - SMD approved to CECC 00802

- BSI approved - Certificate No. 8001

**DESCRIPTION**

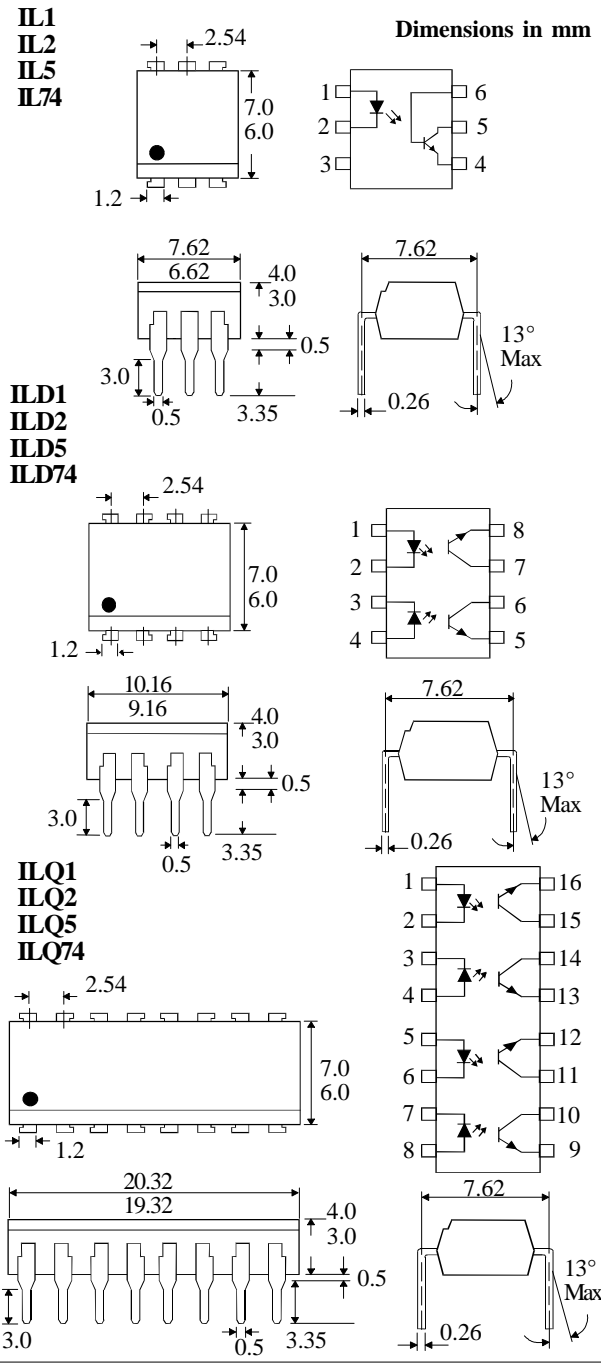
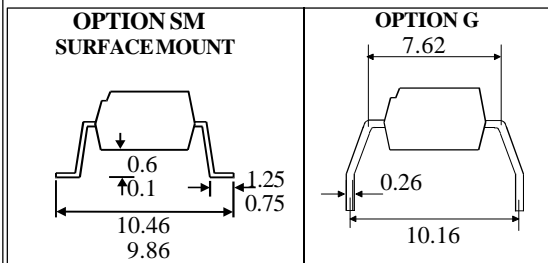
The IL\*, ILD\*, ILQ\* series of optically coupled isolators consist of infrared light emitting diodes and NPN silicon photo transistors in space efficient dual in line plastic packages.

**FEATURES**

- Options :-  
 10mm lead spread - add G after part no.  
 Surface mount - add SM after part no.  
 Tape&reel - add SMT&R after part no.
- Three package types
- High Current Transfer Ratio (50% min)
- High Isolation Voltage (5.3kV<sub>RMS</sub>, 7.5kV<sub>PK</sub>)
- High BV<sub>CEO</sub> (70V min)  
 IL2, ILD2, ILQ2, IL5, ILD5, ILQ5

**APPLICATIONS**

- Computer terminals
- Industrial systems controllers
- Measuring instruments
- Signal transmission between systems of different potentials and impedances



**ISOCOM COMPONENTS LTD**  
 Unit 25B, Park View Road West,  
 Park View Industrial Estate, Brenda Road  
 Hartlepool, Cleveland, TS25 1YD  
 Tel: (01429) 863609 Fax : (01429) 863581

**ISOCOM INC**  
 1024 S. Greenville Ave, Suite 240,  
 Allen, TX 75002 USA  
 Tel: (214) 495-0755 Fax: (214) 495-0901  
 e-mail info@isocom.com  
 http://www.isocom.com

**ABSOLUTE MAXIMUM RATINGS**  
(25°C unless otherwise specified)

Storage Temperature \_\_\_\_\_ -40°C to +125°C  
 Operating Temperature \_\_\_\_\_ -25°C to +100°C  
 Lead Soldering Temperature  
 (1/16 inch (1.6mm) from case for 10 secs) 260°C

**INPUT DIODE**

Forward Current \_\_\_\_\_ 50mA  
 Reverse Voltage \_\_\_\_\_ 6V  
 Power Dissipation \_\_\_\_\_ 70mW

**OUTPUT TRANSISTOR**

Collector-emitter Voltage  $BV_{CEO}$   
 IL2,ILD2,ILQ2,IL5,ILD5,ILQ5 \_\_\_\_\_ 70V  
 IL1,ILD1,ILQ1,IL74,ILD74,ILQ74 \_\_\_\_\_ 50V  
 Emitter-collector Voltage  $BV_{ECO}$  \_\_\_\_\_ 6V  
 Power Dissipation \_\_\_\_\_ 150mW

**POWER DISSIPATION**

Total Power Dissipation \_\_\_\_\_ 170mW  
 (derate linearly 2.67mW/°C above 25°C)

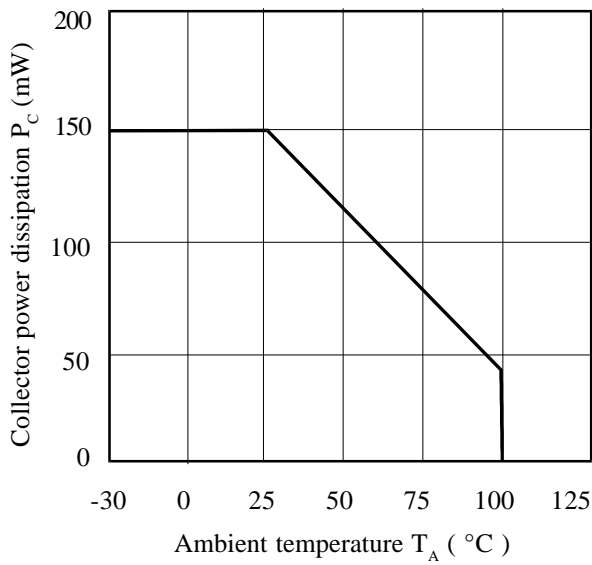
**ELECTRICAL CHARACTERISTICS (  $T_A = 25^\circ\text{C}$  Unless otherwise noted )**

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage ( $V_F$ ) Reverse Current ( $I_R$ )		1.2	1.65 10	V $\mu\text{A}$	$I_F = 50\text{mA}$ $V_R = 4\text{V}$
Output	Collector-emitter Breakdown ( $BV_{CEO}$ ) IL2,ILD2,ILQ2,IL5,ILD5,ILQ5 IL1,ILD1,ILQ1,IL74,ILD74,ILQ74 Emitter-collector Breakdown ( $BV_{ECO}$ ) Collector-emitter Dark Current ( $I_{CEO}$ )	70 50 6			V V V nA	$I_C = 1\text{mA}$ , ( Note 2 ) $I_C = 1\text{mA}$ , ( Note 2 ) $I_E = 100\mu\text{A}$ $V_{CE} = 10\text{V}$
Coupled	Current Transfer Ratio (CTR) (Note 2) IL1,ILD1,ILQ1 IL2,ILD2,ILQ2 IL5,ILD5,ILQ5 IL74,ILD74,ILQ74 Saturated Current Transfer Ratio IL1,ILD1,ILQ1 IL2,ILD2,ILQ2 IL5,ILD5,ILQ5 IL74,ILD74,ILQ74 Collector-emitter Saturation Voltage, $V_{CE(SAT)}$ Input to Output Isolation Voltage $V_{ISO}$ Input to Output Isolation Voltage $V_{ISO}$ Input-output Isolation Resistance $R_{ISO}$ Output Rise Time $t_r$ Output Fall Time $t_f$	20 100 50 12.5  12.5 5300 7500 $5 \times 10^{10}$	    75 170 100  2	300 500 400   0.4	% % % %  % % % % V $V_{RMS}$ $V_{PK}$ $\Omega$ $\mu\text{s}$ $\mu\text{s}$	$10\text{mA } I_F, 10\text{V } V_{CE}$ $10\text{mA } I_F, 10\text{V } V_{CE}$ $10\text{mA } I_F, 10\text{V } V_{CE}$ $16\text{mA } I_F, 5\text{V } V_{CE}$  $10\text{mA } I_F, 0.4\text{V } V_{CE}$ $10\text{mA } I_F, 0.4\text{V } V_{CE}$ $10\text{mA } I_F, 0.4\text{V } V_{CE}$ $16\text{mA } I_F, 0.5\text{V } V_{CE}$ $16\text{mA } I_F, 2\text{mA } I_C$ See note 1 See note 1 $V_{IO} = 500\text{V}$ (note 1) $I_F = 10\text{mA}$ $V_{CC} = 5\text{V}, R_L = 75\Omega$

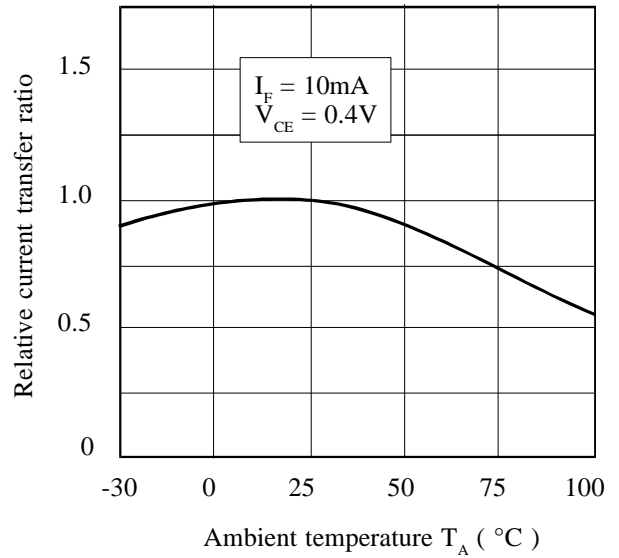
Note 1 Measured with input leads shorted together and output leads shorted together.

Note 2 Special Selections are available on request. Please consult the factory.

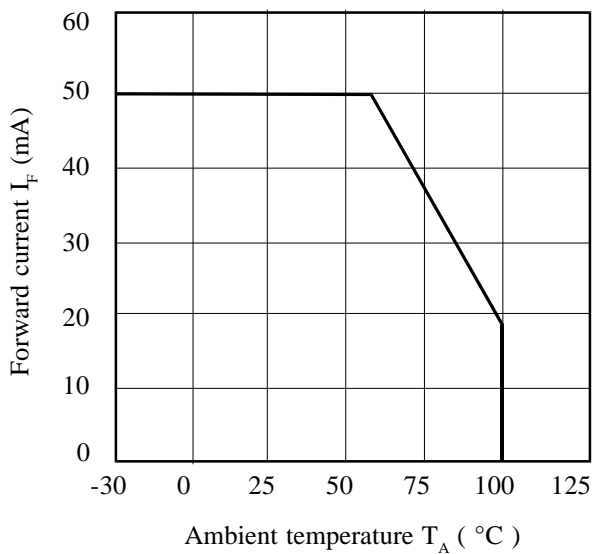
**Collector Power Dissipation vs. Ambient Temperature**



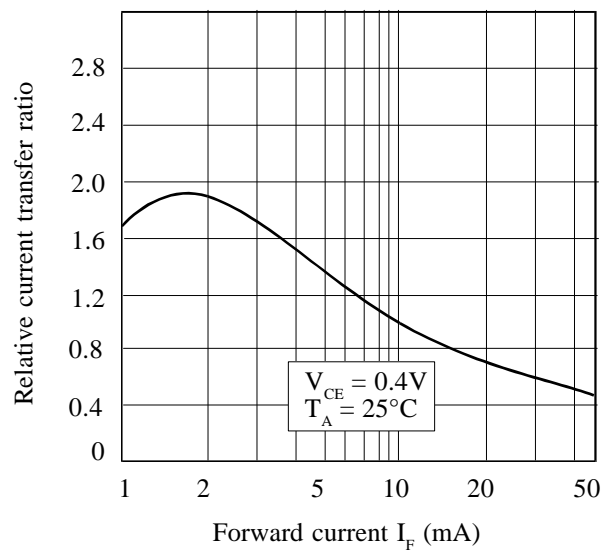
**Relative Current Transfer Ratio vs. Ambient Temperature**



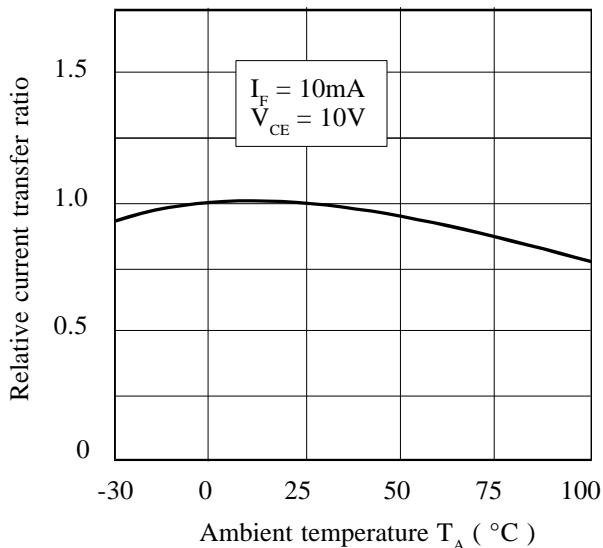
**Forward Current vs. Ambient Temperature**



**Relative Current Transfer Ratio vs. Forward Current**



**Relative Current Transfer Ratio vs. Ambient Temperature**



**Relative Current Transfer Ratio vs. Forward Current**

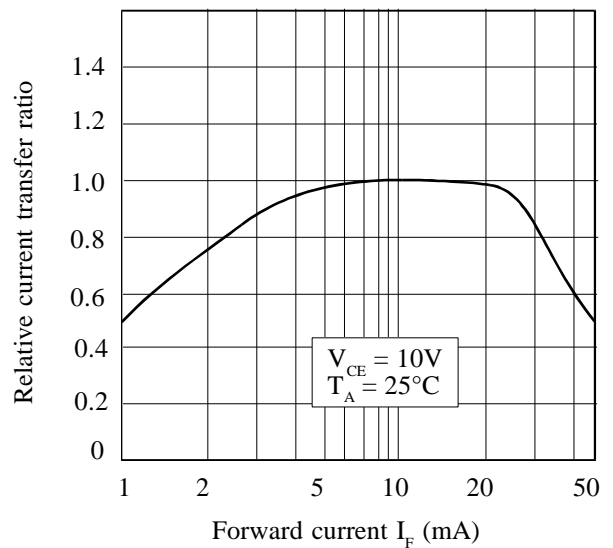


Fig.1 Forward Current vs. Ambient Temperature

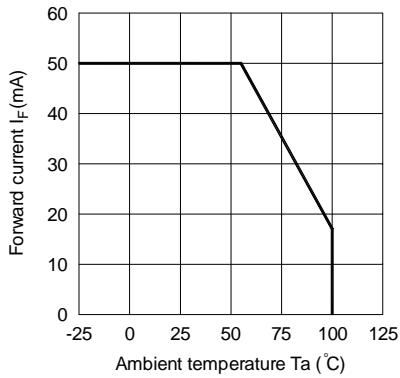


Fig.2 Collector Power Dissipation vs. Ambient Temperature

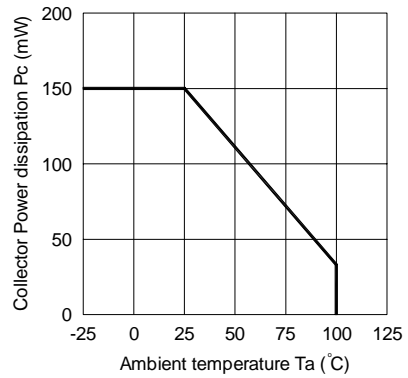


Fig.3 Collector-emitter Saturation Voltage vs. Forward Current

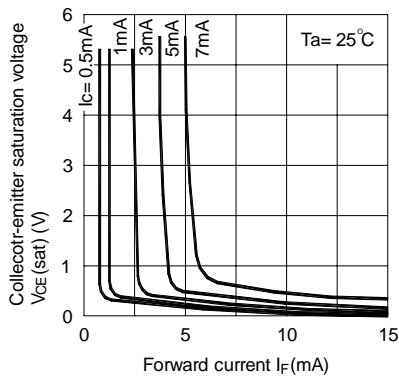


Fig.4 Forward Current vs. Forward Voltage

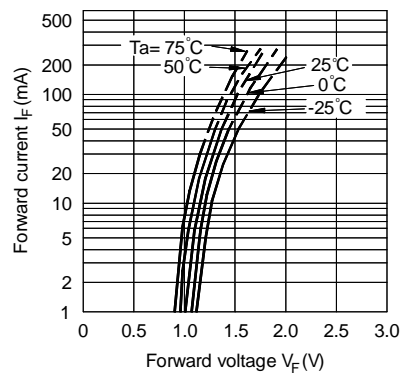


Fig.5 Current Transfer Ratio vs. Forward Current

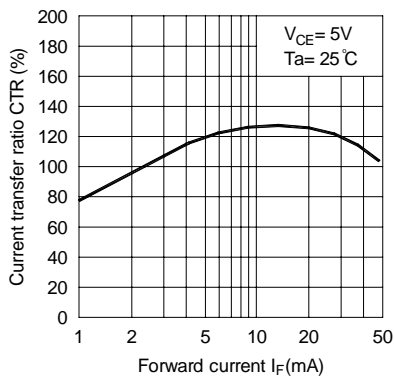


Fig.6 Collector Current vs. Collector-emitter Voltage

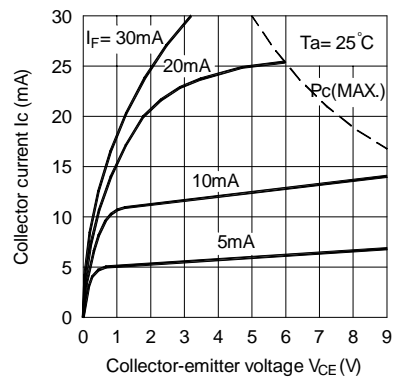


Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature

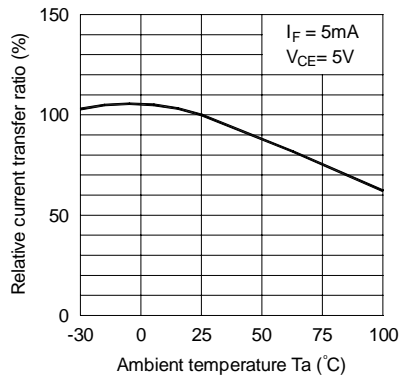


Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature

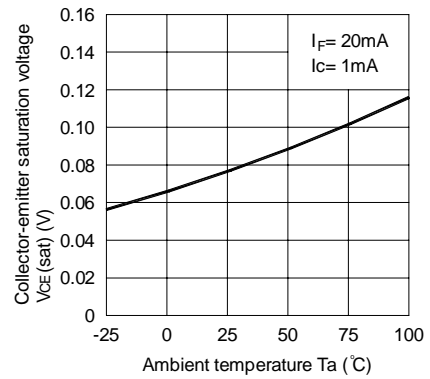


Fig.9 Collector Dark Current vs. Ambient Temperature

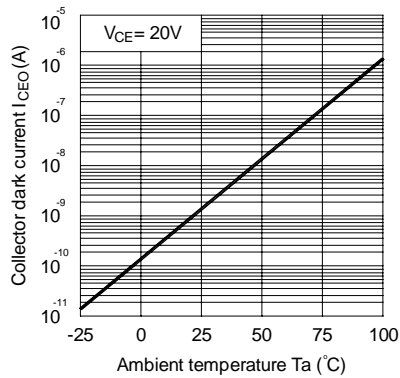


Fig.10 Response Time vs. Load Resistance

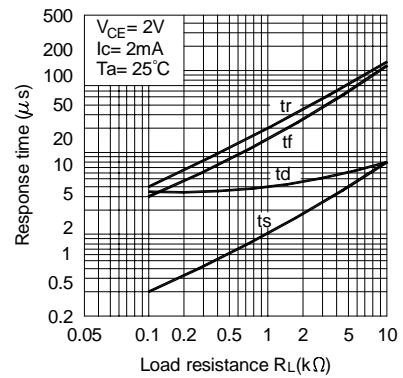
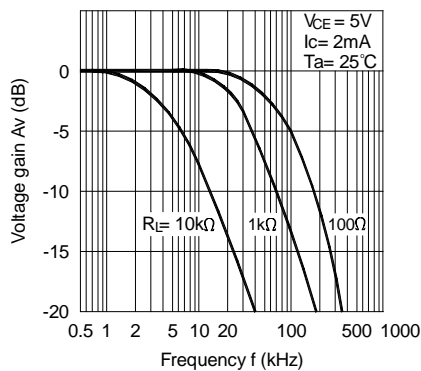
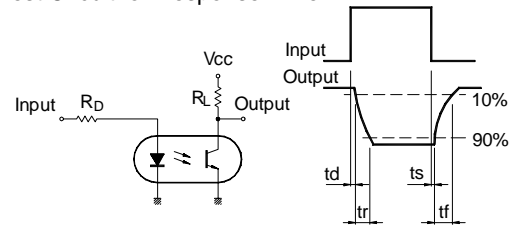


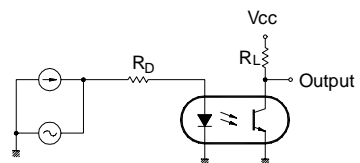
Fig.11 Frequency Response



Test Circuit for Response Time



Test Circuit for Frequency Response



## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [MOSFET Output Optocouplers](#) category:*

*Click to view products by [Isocom](#) manufacturer:*

Other Similar products are found below :

[TLP3131\(F\)](#) [TLP598GAF](#) [CPC2014NTR](#) [TLP4026G\(F\)](#) [LTV-817S-B](#) [CPC2017NTR](#) [TLP152\(TPL,E\(T](#) [PS2505L-4-E3-A](#) [TLP3106A\(TP,F](#)  
[TLP3107A\(F](#) [TLP3106A\(F](#) [TLP4176A\(F](#) [TLP3149\(F](#) [TLP3147\(F](#) [TLP3145\(F](#) [TLP3146\(F](#) [TLP3149\(TP,F](#) [H11AV1XSM](#) [CNY17-1-000E](#)  
[CNY17-1-300E](#) [CNY17-1S](#) [CNY17-2-000E](#) [CNY17-2S](#) [CNY173SR2VM](#) [CNY17-4-000E](#) [HCPL-181-06DE](#) [HCPL-J312-000E](#) [LTV-3120S-](#)  
[TA1](#) [LTV-817-L](#) [LTV-817M-D](#) [LTV-817S-A](#) [LTV-817S-TA1-L](#) [TIL111](#) [TIL191](#) [MCT6X](#) [MCT6XSM](#) [TLP170A\(F\)](#) [TLP170G\(F\)](#)  
[TLP197GA\(F\)](#) [TLP197G\(TP,F\)](#) [TLP222A-2\(LF1,F\)](#) [TLP291\(GR-TP.E\(O](#) [TLP597A\(F\)](#) [TLP797J\(F\)](#) [4N35X](#) [4N35XSM](#) [MOC213M](#)  
[HMHA2801R2](#) [ILD1XSM](#) [ILQ2X](#)