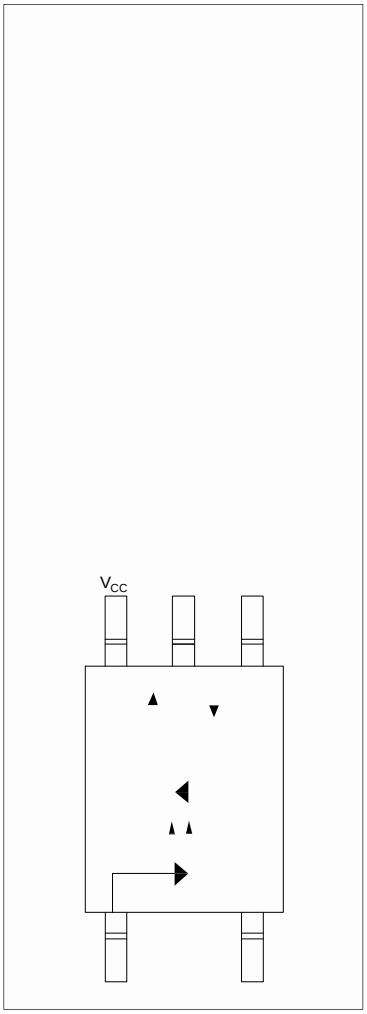
DESCRIPTION:

The products are 15MBd high-speed opto-couplers in the SOP5 package. The device consists of a 850 nm AlGaAS LED, optically coupled to a very high speed integrated photo-detector logic gate with a strobable output. The output end of the product is a CMOS output, and the product has a strong common mode rejection capability. The coupled parameters are guaranteed over the temperature range of -40°C to +110°C. The products are widely used in communication interface, digital isolation for A/D, D/A conversion, high-voltage power systems, renewable energy inverters, medical imaging and patient monitoring.



MAIN FEATURES

High isolation 3750 VRMS
High speed – 15MBd typical
Operating temperature range -40°C to 110°C
REACH & RoHS compliance
HBM: H3A; MM: M4; CDM: C3
CQC approved
VDE approved
UL approved

Truth Table

LED	Output
ON	L
OFF	H

ABSOLUTE MAXIMUM RATINGS (Temperature=25°C)

Input	Forward Current	I_F	50	mA
	Peak Forward Current	I_{FP}	1	A
	Reverse Voltage	V_R	6	V

	Input Power Dissipation	P_D	100	mW
Output	Supply Voltage	V_{CC}	7	V
	Output Voltage	V_O	V_{CC}+0.5	V
	Output Current	I_O	10	mA
	Output Power Dissipation	P_O	22	mW
Total Power Dissipation		P_{tot}	130	mW
Isolation Voltage		V_{iso}	3750	Vrms
Operating Temperature		T_{opr}	-40~110	
Junction Temperature		T_j	125	
Storage Temperature		T_{stg}	-55~125	
Soldering Temperature		T_{sol}	260	

NOTE1: 100μs pulse, 100Hz frequency
NOTE2: AC for 1minute, R.H.=40~60%

ELECTRICAL CHARACTERISTICS (Temperature=25°C)

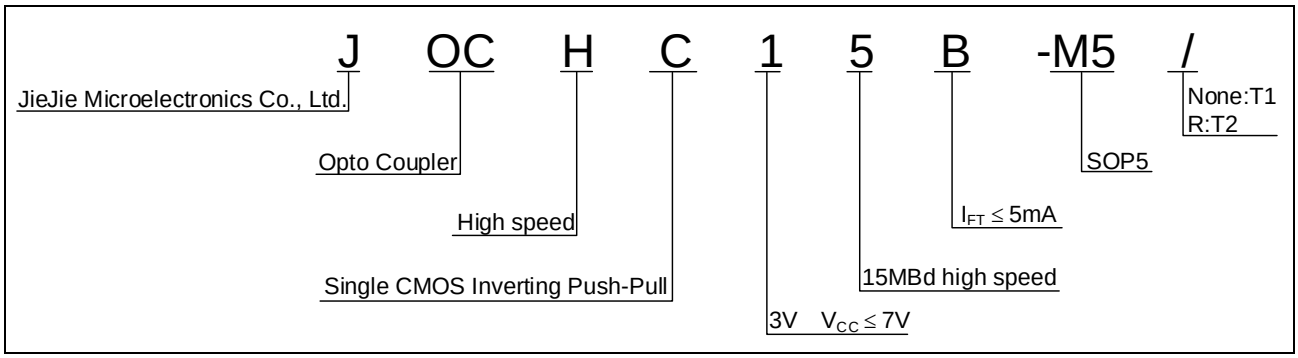
Input	Forward Voltage	V_F	I_F=10mA	-	1.35	1.6	V
	Input Reverse Breakdown Voltage	BV_R	I_R=10μA	5	-	-	V
	Reverse Current	I_R	V_R=6V	-	-	1	μA
	Input Capacitance	C_{in}	V=0,f=1MHz	-	30	100	pF
Output	High Level Supply Current	I_{CCH}	V_{CC}=5V,I_F=0mA	-	-	6.5	mA
	Low Level Supply Current	I_{CCL}	V_{CC}=5V,I_F=10mA	-	-	6.5	mA
	Logic High Output Voltage	V_{OH}	I_F=0mA,I_O=-20μA	$V_{DD-0.1}$	V_{DD}	-	V
	Logic Low Output Voltage	V_{OL}	I_F=7mA,I_O=20μA, V_{CC}=5V	-	0.02	0.1	V
	Isolation Resistance	R_{ISO}	DC500V 40~60%R.H.	10^{12}	-	-	Ω
	Floating Capacitance	C_{IO}	f=1MHz	-	0.6	-	pF
Switching Characteristics	Trigger LED Current	I_{FT}	V_{CC}=5V	-	-	5	mA

	Propagation Delay Time to Logic Low	TPHL	I_F=7mA,C_L=15pF	-	70	100	ns
	Propagation Delay Time to Logic High	TPLH	I_F=7mA,C_L=15pF	-	55	100	ns
	Common Mode Transient Immunity at Logic High	CM_H	I_F=0mA, V_{CM}=1000Vpp, C_L=15pF, V_{CC}=5V	20	-	-	kV/μs
	Common Mode Transient Immunity at Logic Low	CM_L	I_F=7mA, V_{CM}=1000Vpp, C_L=15pF, V_{DD}=5V	20	-	-	kV/μs

Recommended Operating Conditions

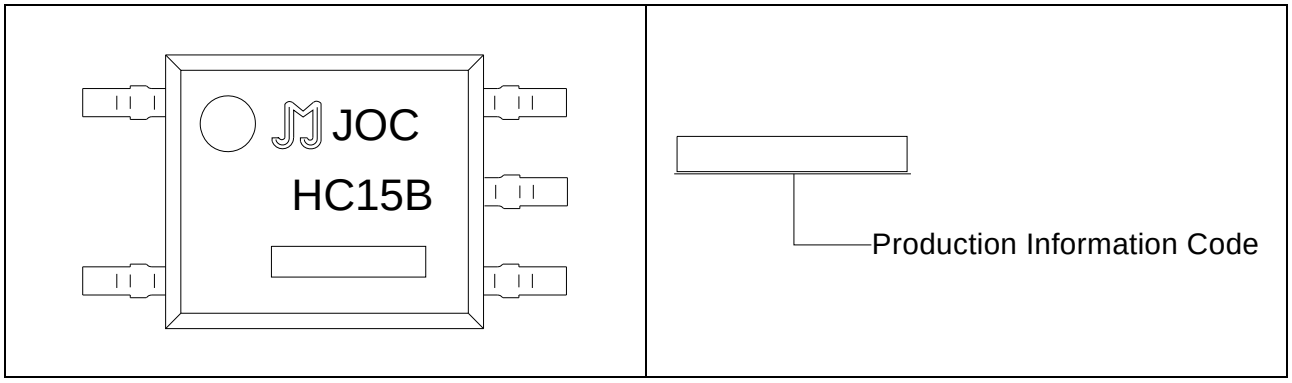
Operating Temperature	T_a	-40	-	105	
Supply Voltage	V_{CC}	2.7	-	5.5	V
Low Level Input Current	I_{FL}	0	-	250	μA
High Level Input Current	I_{FH}	8	-	16	mA
Forward Voltage	$V_{F(OFF)}$	-	-	0.8	V

ORDERING INFORMATION



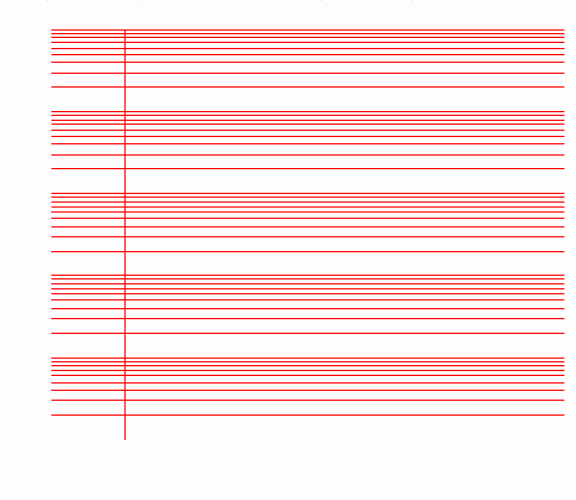
Packing Quantity			
Option	**Quantity**	**Quantity – Inner box**	**Quantity –Outer box**
SOP5	3000 Units/Reel	2 Reels/Inner box	5 Inner box/Outer box =30k Units

MARKING



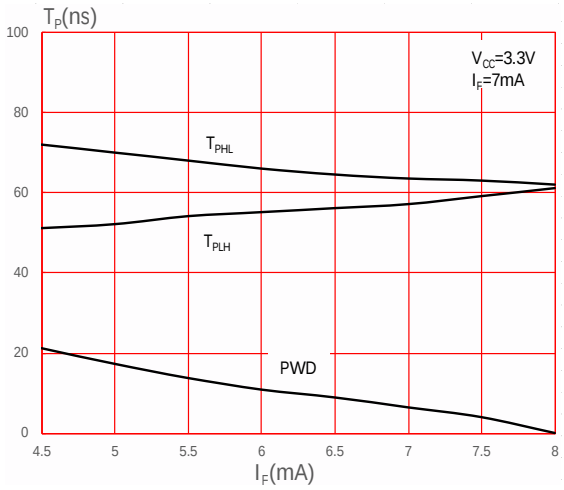
Characteristics Curves

Forward Current vs. Forward Voltage

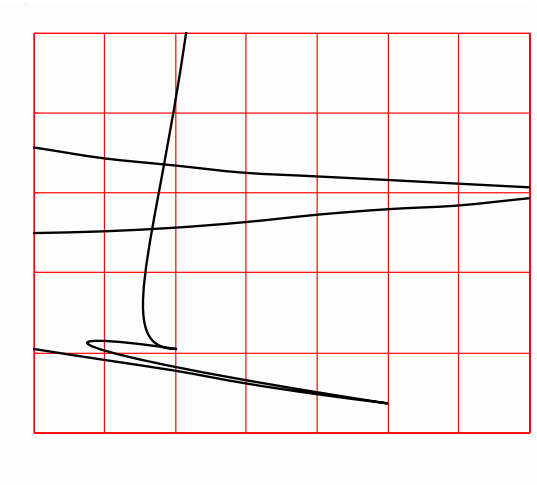


Max. Allowable LED Forward Current vs. Ambient Temperature

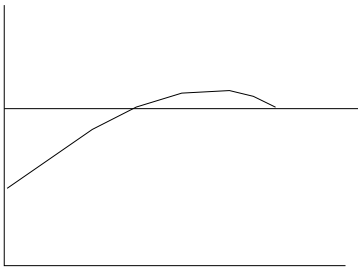
Propagation Delay vs. Ambient Temperature



Propagation Delay vs. Ambient Temperature



REFLOW INFORMATION



Note:

1. Reflow soldering is recommended at the temperatures and times shown, no more than three times.