

Optocoupler Selection Guide



Digital Communication

High speed Communication

Safety

Introduction

Renesas offers a leading portfolio of high performance optocouplers. Key features enabling customers to develop market leading products include 7.5 KV isolation voltage (PS99-series), minimum CMR of 50 KV/ μ s (PS9307) as well as wide package distance up to 14.5 mm.

Dedicated applications support in Europe allows our experienced engineers to oversee complex designs from concept through to mass production.

With in excess of 500 different optocouplers, Renesas is a market leader in many multimarket applications including industrial, consumer, communication and medical.

Quality and reliability are fundamental elements for the complete Renesas optocoupler product family. Products comply with international safety regulatory agencies including UL, VDE, CSA, BSI, SEMKO, NEMKO, FIMKO, DEMKO and CQC.

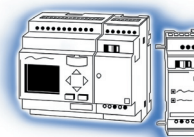
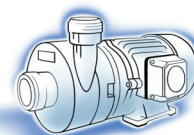
Complementary to the optocouplers, Renesas has a long experience in the design and manufacture of high efficiency IGBT's. A broad portfolio is offered for applications such as induction heating, motor control and solar inverters. The IGBT's consist of optimized Vce(sat) for low static losses. Highly robust designs can be achieved due to fast recovery diode. Current ratings from 10 A to 90 A are available. The designer can take advantage of the optocoupler and IGBT solution from one source, Renesas.

To complement this optocoupler selection guide more detailed technical documentation including a full opto-isolation selector tool can be found at: www.renesas.eu/products/opto

Samples can be obtained using the following email address: Sampleorder_Opto-eu@lm.renesas.com



- ▶ **Worlds number one for transistor output couplers***
- ▶ **High quality and reliability – less than 1 ppm**
- ▶ **Large production capacity (>200 Mch/month)**
- ▶ **In-house technologies: Bipolar, CMOS and Bi-CMOS**
- ▶ **No.1 supplier in SSOP and flat lead packages**
- ▶ **World's smallest optocouplers**
- ▶ **Think Renesas for optocouplers!**



* FY2010 market share, source Renesas

Applications Guide

	Isolated Drive		High Speed Communication
	IGBT	IPM	
A.T.E			
Air Conditioning	PS930X, PS950X	PS9x13, PS9303	
Alarm Panels			
Board CPU			PS9X17A, PS9X21, PS9X51
Can Isolation			PS9123, PS9X17A, PS9X51
Elevator			PS9317, PS9587
E.P.O.S			PS8101, PS8802, PS9X17A, PS9X21, PS9X51
Fitness Equipment	PS930X, PS950X	PS9X13	
Heating Controls			
Induction Cooker	PS930X, PS950X		
Instrumentation			PS9X17A, PS9X21
Lighting			
Lighting (fluorescent)			
M.R.I	PS930X, PS950X		PS91XX, PS98XX
Metering			PS8XX, PS9X17A
Motor Control (Industrial)	PS930X, PS9905, PS9402	PS9x13, PS9303	PS9924, PS85XX, PS9X17A, PS9317, PS9587
Motor Control (White Goods)	PS9306, PS9X05, PS9308	PS9x13, PS9303	
MW oven		PS9x13, PS9303	
Networking (consumer)			PS8X21, PS9X21, PS9X17A, PS9X51, PS9123
Networking (industrial)			PS9X21, PS9X51, PS9X17A, PS9123
Color PDP			PS9123, PS9X17A, PS9X51
P.O.E			PS8802, PS9x22
Power Distribution System	PS930X, PS950X, PS9402	PS9x13, PS9303	PS9X17A, PS9X51
Power Supplies			PS9317, PS9587
UPS		PS9x13	
Programmable Logic Controller			PS9117A, PS9817A
Robot	PS930X, PS950X	PS9x13, PS9303	PS8XXX, PS9X17A, PS9X51
Security Panels			
Sewing Machine	PS930X, PS950X	PS9x13, PS9303	
Power Inverter	PS930X, PS950X, PS9402		PS8302, PS85XX, PS9317, PS9587
Telephone Switching/ Terminals			
Test & Measurement Equipment			PS9X17A, PS9X21, PS9X51
Welding	PS930X, PS950X	PS9x13	

Current & Voltage Sensing	General Purpose Isolation	Isolated Electronic Switch
		PS72xx, PS78xx, PS79xx
		PS2561D
	PS2533, PS2535, PS2733	PS7xxx
	PS2561D	PS71xx, PS72xx
	PS29XX	
	PS25xx, PS27xx	
	PS2381X, PS2561D	
	PS2561D, PS27X1	
	PS25XX, PS27XX	PS71XX, PS72XX
	PS2381, PS2561D, PS27XX, PS28XX	
	PS2381, PS2561D	
	PS2381, PS2561D, PS2565	PS71XX, PS72XX
PS8551, PS9551	PS25XX, PS27XX, PS28XX	PS71XX
PS8551, PS9551	PS27X1, PS28X1	PS710X
	PS27X1, PS28X1	PS71XX
	PS2X11, PS2XX5	
	PS27X1, PS28X1	
	PS2381, PS2X61D	PS71XX
	PS2X61D, PS27X1, PS28X1, PS29XX	
	PS2561D	
	PS2701, PS28XX-1, PS28XX-4	
PS8551, PS9551	PS25XX, PS27XX, PS28XX, PS29XX	
	PS2535, PS2X33	PS71XX, PS72XX
PS8551, PS9551		
	PS27X1, PS28X1, PS29X1	PS714X, PS724X
	PS25XX, PS27XX, PS28XX, PS29XX	PS71XX, PS72XX, PS78XX
PS8551, PS9551		

Optocoupler Quick Guide

Series	Package	Pin-to-pin distance in mm	Outer creepage/air distance in mm	Internal isolation thickness in mm	Isolation working voltage in V_{IORM}	Isolation voltage in V_{RMS}	
PS99xx	L-SDIP	1.27	14.5	0.4	1600	7500	High-Speed Optocoupler
PS95xxL2	DIP (8-pin)	2.54	8	0.4	1130	5000	
PS95xxL3			7				
PS85xxL2			8				
PS85xxL3			7				
PS93xxL2	SDIP (6-pin)	1.27	8	0.4	1130	5000	
PS93xxL			7				
PS83xxL2			8				
PS83xxL			7				
PS91xx	SOP (5-pin)	1.27	4.2	0.2	707	3750	
PS81xx							
PS98xx	SO8 (8-pin)	1.27	4	0.2	566	2500	
PS88xx							
PS95xxL2	DIP (8-pin)	2.54	8	0.4	1130	5000	IGBT-/IPM-Drive Optocoupler / Isolation Amplifier
PS95xxL3			7				
PS8551L4			8				
PS93xxL2	SDIP (8-pin)	1.27	8	0.4	1130	5000	
PS93xxL	SDIP (6-pin)		7				
PS9402	SO16 (16-pin)	1.27	8	0.4	1130	5000	
PS91xx	SOP (5-pin)	1.27	4.2	0.2	707	3750	
PS2381	LSOP	2.54	8	0.4		5000	
PS2561DLx	DIP	2.54	7	0.4		5000	
PS256x				0.4			
PS253x				0.4			
PS251x				0.2			
PS250x				0.3			
PS276x	SOP	2.54	5	0.4		3750	Transistor Output / DC Input
PS273x							
PS271x							
PS270x							
PS286x	SSOP	1.27	4.5	0.4		3750	
PS283x				0.1		2500	
PS281x				0.1		2500	
PS280x				0.1		2500	
PS284x	Ultra SSOP	0.8	4	0.4		1500	
PS29xx	Flat lead	1.27	4	0.4		2500	
PS256x	DIP	2.54	7	0.4		5000	
PS250x				0.3			
PS271x	SOP	2.54	5	0.3		3750	
PS270x							
PS281x	SSOP	1.27	4.5	0.1		2500	Transistor Output / AC Input
PS280x							
PS284x	Ultra SSOP	0.8	4	0.4		1500	
PS29xx	Flat lead	1.27	4	0.4		2500	

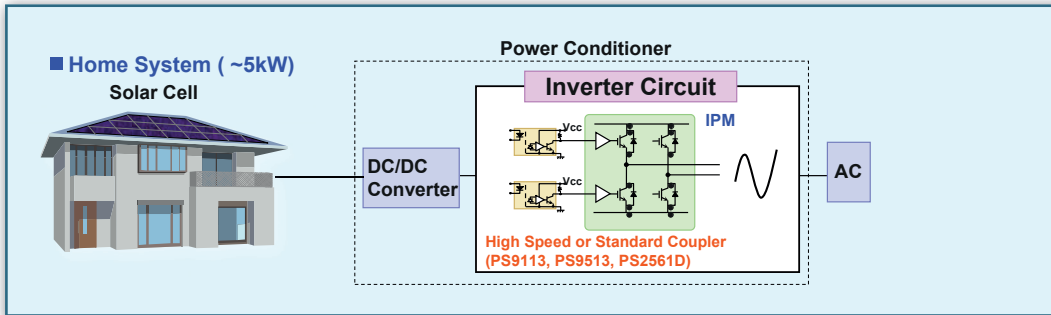
Cross Reference Guide

Avago	Renesas	TLP176A	PS7206-1A	TLP750F	PS8502L1	PC410LONIP	PS9117A	PC917X	PS8502
6N135	PS8501 or PS8501L3	TLP176G	PS7241E-1A	TLP751	PS8501	PC411L	PS9151	PC918X	PS8501
6N136	PS8501 or PS8501L3	TLP176GA	PS7241E-1A	TLP751F	PS8501L1	PC417	PS8101	PC922	PS9505
6N137	PS9587 or PS9587L3	TLP179D	PS7241E-1A	TLP759	PS8502	PC452	PS2733-1	PC925L	PS9505
ACPL-3130	PS9505	TLP180	PS2705A-1	TLP759(IGM)	PS9513	PC457LONIP	PS8101	PC957LONISZ	PS8502
ACPL-332J	PS9402	TLP180(GB)	PS2705A-1	TLP759F	PS8502L1	PC457S	PS8802-1	PH3H5	PS2802-1
ACPL-J313	PS9505-V	TLP180(T)	PS2705A-1	TLP759F(IGM)	PS9513L1	PC4D10S	PS9817A-2	PH4H520NIP	PS2833-1
ACPL-M60L	PS9121	TLP181	PS2701A-1	Sharp	Renesas	PC812	PS2561D-1Y	Fairchild	Renesas
ACPL-P302	PS9306L	TLP181(BL)	PS2703-1	6N135	PS8501	PC812A	PS2561D-1Y	6N135	PS8501
ACPL-P314	PS9306L	TLP181(GB)	PS2701A-1	6N136	PS8501	PC812B	PS2561D-1Y	6N136	PS8501
ACPL-P611	PS9317L	TLP181(GR)	PS2701A-1	6N137	PS9587	PC812C	PS2561D-1Y	FOD053L	PS8821-2
ACPL-T350	PS9505	TLP181(T)	PS2701A-1	PC123	PS2561D-1Y	PC814X	PS2505-1	FOD3181	PS9505
ACPL-W302	PS9306L2	TLP181(Y)	PS2701A-1	PC123A	PS2561D-1Y	PC814X1	PS2505-1	FOD617A	PS2561D-1Y
ACPL-W314	PS9306L2	TLP202G	PS7241-2A	PC123B	PS2561D-1Y	PC815	PS2502-1	FOD617B	PS2561D-1Y
ACPL-W611	PS9317L2	TLP206G	PS7241-2A	PC123C	PS2561D-1Y	PC816	PS2561D-1Y	FOD617C	PS2561D-1Y
HCPL-0201	PS9817A-1	TLP206GA	PS7241-2A	PC123F	PS2561DL1-1Y-V	PC816A	PS2561D-1Y	FOD617D	PS2561D-1Y
HCPL-0211	PS9817A-1	TLP250	PS9505	PC123F1	PS2561DL1-1Y-V	PC816AB	PS2561D-1Y	FOD817	PS2561D-1Y
HCPL-0452	PS8802-1	TLP250(INV)	PS9505	PC123F2	PS2561DL1-1Y-V	PC816AC	PS2561D-1Y	FOD817A	PS2561D-1Y
HCPL-0453	PS8802-1	TLP250F	PS9505L1	PC123F5	PS2561DL1-1Y-V	PC816AD	PS2561D-1Y	FOD817B	PS2561D-1Y
HCPL-0530	PS8802-2	TLP250F(INV)	PS9505L1	PC123FP	PS2561DL2-1Y-V	PC816B	PS2561D-1Y	FOD817C	PS2561D-1Y
HCPL-0531	PS8802-2	TLP280	PS2805C-1	PC123FP1	PS2561DL2-1Y-V	PC816BC	PS2561D-1Y	FOD817D	PS2561D-1Y
HCPL-0534	PS8802-2	TLP280(GB)	PS2805C-1	PC123FP2	PS2561DL2-1Y-V	PC816BD	PS2561D-1Y	FOD852	PS2533-1
HCPL-0600	PS9817A-1	TLP280-4	PS2805C-4	PC123FP5	PS2561DL2-1Y-V	PC816C	PS2561D-1Y	FODM2701	PS2761B-1
HCPL-0601	PS9817A-1	TLP280-4(GB)	PS2805C-4	PC123FP8	PS2561DL2-1Y-V	PC816CD	PS2561D-1Y	FODM2701A	PS2761B-1
HCPL-060L	PS9821-1	TLP281	PS2801C-1	PC123FS	PS2561DL1-1Y-V	PC816D	PS2561D-1Y	FODM2701B	PS2761B-1
HCPL-0611	PS9817A-1	TLP281(GB)	PS2801C-1	PC123FY	PS2561DL1-1Y-V	PC817X	PS2561D-1Y	FODM452	PS8101
HCPL-0630	PS9817A-2	TLP281-4	PS2801C-4	PC123FY1	PS2561DL1-1Y-V	PC817X0	PS2561D-1Y	FODM453	PS8101
HCPL-0631	PS9817A-2	TLP281-4(GB)	PS2801C-4	PC123FY2	PS2561DL1-1Y-V	PC817X1	PS2561D-1Y	H11A617A	PS2561D-1Y
HCPL-063L	PS9821-2	TLP321	PS2561D-1Y	PC123FY5	PS2561DL1-1Y-V	PC817X2	PS2561D-1Y	H11A617B	PS2561D-1Y
HCPL-0661	PS9817A-2	TLP321(BL)	PS2561D-1Y	PC123FY8	PS2561DL1-1Y-V	PC817X3	PS2561D-1Y	H11A617C	PS2561D-1Y
HCPL-0700	PS8802-1	TLP321(GB)	PS2561D-1Y	PC123P	PS2561D-1Y	PC817X4	PS2561D-1Y	H11A617D	PS2561D-1Y
HCPL-0701	PS8802-1	TLP321(GR)	PS2561D-1Y	PC123P1	PS2561D-1Y	PC817X5	PS2561D-1Y	H11A817	PS2561D-1Y
HCPL-0708	PS9851-1	TLP321(Y)	PS2561D-1Y	PC123P2	PS2561D-1Y	PC817X6	PS2561D-1Y	H11A817A	PS2561D-1Y
HCPL-0730	PS8802-2	TLP321-4	PS2501-4	PC123P5	PS2561D-1Y	PC817X7	PS2561D-1Y	H11A817B	PS2561D-1Y
HCPL-0731	PS8802-2	TLP321-4(GB)	PS2501-4	PC123PS	PS2561D-1Y	PC817X8	PS2561D-1Y	H11A817C	PS2561D-1Y
HCPL-0738	PS9851-2	TLP350	PS9505	PC123PY	PS2561D-1Y-V	PC817X9	PS2561D-1Y	H11A817D	PS2561D-1Y
HCPL-2502	PS8501 or PS8501L3	TLP350F	PS9505L1	PC123PY1	PS2561D-1Y-V	PC817XF	PS2561DL1-1Y-V	H11B815	PS2502-1
HCPL-2601	PS9587 or PS9587L3	TLP351	PS9506	PC123PY2	PS2561D-1Y-V	PC817XF0	PS2561DL1-1Y-V	HCPL-0452	PS8802-1
HCPL-2611	PS9587 or PS9587L3	TLP421	PS2561D-1Y	PC123PY5	PS2561DL-1Y-V	PC817XF1	PS2561DL1-1Y-V	HCPL-0453	PS8802-1
HCPL-3020	PS9506	TLP421(BL)	PS2561D-1Y	PC123PY8	PS2561DL-1Y-V	PC817XF2	PS2561DL1-1Y-V	HCPL-0530	PS8802-2
HCPL-3120	PS9505	TLP421(GB)	PS2561D-1Y	PC123S	PS2561D-1Y	PC817XF3	PS2561DL1-1Y-V	HCPL-0531	PS8802-2
HCPL-3140	PS9506	TLP421(GR)	PS2561D-1Y	PC123Y	PS2561D-1Y-V	PC817XF5	PS2561DL1-1Y-V	HCPL-0534	PS8802-2
HCPL-3150	PS9506	TLP421(Y)	PS2561D-1Y	PC123Y1	PS2561D-1Y-V	PC817XF6	PS2561DL1-1Y-V	HCPL-062N	PS9821-2
HCPL-316J	-	TLP421F	PS2561DL1-1Y-V	PC123Y2	PS2561D-1Y-V	PC817XF7	PS2561DL1-1Y-V	HCPL-0637	PS9817A-2
HCPL-4502	PS8502 or PS8502L3	TLP421F(BL)	PS2561DL1-1Y-V	PC123Y5	PS2561D-1Y-V	PC817XF8	PS2561DL1-1Y-V	HCPL-0638	PS9817A-2
HCPL-4503	PS8502 or PS8502L3	TLP421F(GB)	PS2561DL1-1Y-V	PC123YS	PS2561D-1Y-V	PC817XF9	PS2561DL1-1Y-V	HCPL-0639	PS9817A-2
HCPL-4504	PS9513 or PS9513L3	TLP421F(GR)	PS2561DL1-1Y-V	PC123ZY	PS2561DL2-1Y-V	PC817XFP	PS2561DL1-1Y-V	HCPL-0708	PS9851-1
HCPL-4506	PS9513 or PS9513L3	TLP421F(Y)	PS2561DL1-1Y-V	PC123ZY1	PS2561DL2-1Y-V	PC817X1	PS2561DL-1Y	HCPL-0738	PS9851-2
HCPL-7510	PS8551L4	TLP521-1	PS2561D-1Y	PC123ZY2	PS2561DL2-1Y-V	PC817X10	PS2561DL-1Y	HCPL-2502	PS8501
HCPL-7520	PS8551L4	TLP521-1(BL)	PS2561D-1Y	PC123ZY5	PS2561DL2-1Y-V	PC817X11	PS2561DL-1Y	HCPL-2503	PS8501
HCPL-7560	PS9551L4	TLP521-1(GB)	PS2561D-1Y	PC123ZY8	PS2561DL2-1Y-V	PC817X12	PS2561DL-1Y	HCPL-4502	PS8502
HCPL-7800	PS8551L4	TLP521-1(GR)	PS2561D-1Y	PC352	PS2701A-1	PC817X13	PS2561DL-1Y	HCPL-500	PS8501
HCPL-7840	PS8551L4	TLP521-1(T)	PS2561D-1Y	PC354N1	PS2715-1	PC817X14	PS2561DL-1Y	HCPL-501	PS8501
HCPL-7860	PS9551L4	TLP521-1(Y)	PS2561D-1Y	PC354NJ	PS2715-1	PC817X15	PS2561DL-1Y	HMA121	PS2701A-1
HCPL-J312	PS9505-V	TLP521-4	PS2501-4	PC355NJ	PS2702-1	PC817X16	PS2561DL-1Y	HMA121A	PS2701A-1
HCPL-J454	PS9513-V or PS9513L3-V	TLP521-4(GB)	PS2501-4	PC356NJ	PS2711-1	PC817X17	PS2561DL-1Y	HMA121B	PS2701A-1
HCPL-J456	PS9513-V or PS9513L3-V	TLP523	PS2533-1 or PS2535-1	PC357N0T	PS2701A-1	PC817X18	PS2561DL-1Y	HMA121C	PS2701A-1
HCPL-M452	PS8101	TLP550	PS8502	PC357N1T	PS2701A-1	PC817X19	PS2561DL-1Y	HMA121D	PS2701A-1
HCPL-M453	PS8101	TLP551	PS8501	PC357N2T	PS2701A-1	PC817XP	PS2561DL-1Y	HMA121E	PS2701A-1
HCPL-M454	PS9113	TLP559	PS8502	PC357N3T	PS2703-1	PC817XP0	PS2561DL-1Y	HMA2701	PS2701A-1
HCPL-M456	PS9113	TLP559(IGM)	PS9513	PC357N4T	PS2711-1	PC817XP1	PS2561DL-1Y	HMA2701A	PS2701A-1
HCPL-M600	PS9117A	TLP620	PS2565-1	PC357N5T	PS2701A-1	PC817XP2	PS2561DL-1Y	HMA2701B	PS2701A-1
HCPL-M601	PS9117A	TLP620(GB)	PS2565-1	PC357N6T	PS2701A-1	PC817XP3	PS2561DL-1Y	Fairchild	Renesas
HCPL-M611	PS9117A	TLP620(T)	PS2565-1	PC357N7T	PS2703-1	PC817XP4	PS2561DL-1Y	HMA2705	PS2705A-1
HCPL-M700	PS9113	TLP620F	PS2565L1-1	PC357N8T	PS2701A-1	PC817XP5	PS2561DL-1Y	HMAA2705	PS2705A-1 or PS2765-1
HCPL-M701	PS9113	TLP621	PS2561D-1Y	PC357N9T	PS2701A-1	PC817XP6	PS2561DL-1Y	HMHA2801	PS2801C-1
HCPL-T251	PS9506	TLP621(BL)	PS2561D-1Y	PC357NT	PS2701A-1	PC817XP7	PS2561DL-1Y	HMHA2801B	PS2801C-1
Toshiba	Renesas	TLP621(GB)	PS2561D-1Y	PC358	PS2703-1	PC817XP8	PS2561DL-1Y	HMHA2801C	PS2801C-1
TLP102	PS9113	TLP621(GR)	PS2561D-1Y	PC365N	PS2702-1 or PS2706-1	PC817XP9	PS2561DL-1Y	HMHA281	PS2801C-1
TLP112	PS8101	TLP621(T)	PS2561D-1Y	PC367N1	PS2711-1	PC826	PS2561D-1Y	HMHA280	PS2805C-1
TLP113	PS9117A	TLP621(Y)	PS2561D-1Y	PC367N2	PS2711-1	PC845	PS2502-4	MCL2501	PS8501
TLP114A	PS8101	TLP627	PS2535-1 or PS2533-1	PC367N3	PS2711-1	PC847	PS2501-4	MCL2502	PS8501
TLP115	PS9117A	TLP627(T)	PS2535-1	Sharp	Renesas	PC847AB	PS2501-4	MCL2503	PS8501
TLP115A	PS9117A	TLP627A	PS2535-1	PC3H4	PS2815-1	PC847AC	PS2501-4	MCL2601	PS9587
TLP120	PS2705A-1	TLP651	PS8501	PC3H410NIP	PS2815-1	PC847AD	PS2501-4	Visay	Renesas
TLP121	PS2701A-1	TLP701	PS9306	PC3H411NIP	PS2815-1	PC847BC	PS2501-4	6N135	PS8501 or PS8501L3
TLP121(GB)	PS2701A-1	TLP705	PS9306	PC3H7	PS2811-1 or PS2801C-1	PC847BD	PS2501-4	6N135-3054	PS8501
TLP121(GR)	PS2701A-1	Toshiba	Renesas	PC3H710NIP	PS2811-1	PC852	PS2535-1	6N136-3055	PS8501
TLP121(Y)	PS2701A-1	TLP706	PS9303	PC3H711NIP	PS2811-1	PC852X	PS2533-1 or PS2535-1	K814P	PS2565-1
Toshiba	Renesas	TLP721	PS2561D-1Y	PC3H712NIP	PS2811-1	PC853	PS2535-1	K815P	PS2562-1
TLP121-4	PS2701A-1	TLP721(BL)	PS2561D-1Y	PC3H715NIP	PS2811-1	PC853H	PS2535-1	K817P	PS2561D-1Y
TLP127	PS2733-1	TLP721(GB)	PS2561D-1Y	PC3Q64	PS2815-4	PC853X	PS2533-1 or PS2535-1	K817P1	PS2561D-1Y
TLP172A	PS7206-1A	TLP721(GR)	PS2561D-1Y	PC3Q65	PS2802-4	PC910X	PS9587	K817P2	PS2561D-1Y
TLP172G	PS7241E-1A	TLP721(Y)	PS2561D-1Y	PC3Q66Q	PS2811-4				
		TLP721F(GB)	PS2561DL1-1Y-V	PC3Q67Q	PS2801C-4				
		TLP750	PS8502	PC410	PS9117A				

K817P3	PS2561D-1Y	SFH6757T	PS9817A-2	TCMT4100	PS2801C-4
K817P4	PS2561D-1Y	SFH690ABT	PS2701A-1	TCMT4600	PS2805C-4
K817P5	PS2561D-1Y	SFH690AT	PS2701A-1	VO0630T	PS9817A-2
K817P6	PS2561D-1Y	SFH690BT	PS2701A-1	VO0631T	PS9817A-2
K817P7	PS2561D-1Y	SFH690CT	PS2701A-1	VO0661T	PS9817A-2
K817P8	PS2561D-1Y	SFH690DT	PS2701A-1	Liteon	Renesas
K817P9	PS2561D-1Y	SFH6916	PS2801C-4	LTV-123	PS2561D-1Y
SFH1617A-1	PS2561D-1Y	SFH691AT	PS2705A-1 or PS2765-1	LTV-123-A	PS2561D-1Y
SFH1617A-2	PS2561D-1Y	SFH692AT	PS2733-1	LTV-123-B	PS2561D-1Y
SFH1617A-3	PS2561D-1Y	TCED1100	PS2562-1	LTV-123-C	PS2561D-1Y
SFH1617A-4	PS2561D-1Y	TCED1100G	PS2562L1-1	LTV-123-F	PS2561D-1Y
SFH1690ABT	PS2761B-1	TCET1100	PS2561D-1Y	LTV-123-L	PS2561D-1Y
SFH1690AT	PS2761B-1	TCET1100G	PS2561DL1-1Y-V	LTV-123M	PS2561DL1-1Y-V
SFH1690BT	PS2761B-1	TCET1101	PS2561D-1Y	LTV-123S	PS2561DL2-1Y-V
SFH1690CT	PS2761B-1	TCET1101G	PS2561DL1-1Y-V	LTV352T	PS2733-1
SFH612A	PS2562-1	TCET1102	PS2561D-1Y	LTV354T	PS2715-1
SFH6135	PS8501	TCET1102G	PS2561DL1-1Y-V	LTV354T-A	PS2715-1
SFH6136	PS8501	TCET1103	PS2561D-1Y	LTV355T	PS2702-1
SFH615-1	PS2561D-1Y	TCET1103G	PS2561DL1-1Y-V	LTV356T	PS2701A-1
SFH615-2	PS2561D-1Y	TCET1104	PS2561D-1Y	LTV356T-A	PS2701A-1
SFH615-3	PS2561DL-1Y	TCET1104G	PS2561DL1-1Y-V	LTV356T-B	PS2701A-1
SFH615-4	PS2561D-1Y	TCET1105	PS2561D-1Y	LTV356T-C	PS2701A-1
SFH6156-1	PS2561DL-1Y	TCET1105G	PS2561DL1-1Y-V	LTV356T-D	PS2701A-1
SFH6156-2	PS2561DL-1Y	TCET1106	PS2561D-1Y	LTV357T	PS2701A-1
SFH6156-3	PS2561DL-1Y	TCET1106G	PS2561DL1-1Y-V	LTV357T-A	PS2701A-1
SFH6156-4	PS2561DL-1Y	TCET1107	PS2561D-1Y	LTV357T-B	PS2701A-1
SFH615A-1	PS2561D-1Y or PS2561DL-1Y	TCET1107G	PS2561DL1-1Y-V	LTV357T-C	PS2703-1
SFH615A-2	PS2561D-1Y or PS2561DL1-1Y	TCET1108	PS2561D-1Y	LTV357T-D	PS2711-1
SFH615A-3	PS2561D-1Y or PS2561DL-1Y	TCET1108G	PS2561DL1-1Y-V	LTV357T-E	PS2701A-1
SFH615A-4	PS2561D-1Y or PS2561DL-1Y	TCET1109	PS2561D-1Y	LTV357T-F	PS2701A-1
SFH615AA	PS2561D-1Y or PS2561DL1-1Y	TCET1109G	PS2561DL1-1Y-V	LTV358T	PS2703-1
SFH615AB	PS2561D-1Y or PS2561DL1-1Y	TCET1109G	PS2561DL1-1Y-V	LTV358T-A	PS2703-1
SFH615ABL	PS2561D-1Y or PS2561DL1-1Y	TCET1110	PS2561D-1Y	LTV358T-B	PS2703-1
SFH615ABM	PS2561D-1Y or PS2561DL1-1Y	TCET1110G	PS2561DL1-1Y	LTV358T-C	PS2703-1
SFH615AGB	PS2561D-1Y or PS2561DL1-1Y	TCET1111	PS2561D-1Y	LTV815	PS2562-1
SFH615AGR	PS2561D-1Y or PS2561DL1-1Y	TCET1111G	PS2561DL1-1Y	LTV815M	PS2562L1-1
SFH615AY	PS2561D-1Y or PS2561DL1-1Y	TCET1112	PS2561D-1Y	LTV815S	PS2562L-1
SFH617A-1	PS2561D-1Y or PS2561DL1-1Y	TCET1112G	PS2561DL1-1Y	LTV-816	PS2561D-1Y
SFH617A-2	PS2561D-1Y or PS2561DL1-1Y	TCET1113	PS2561D-1Y	LTV-816-A	PS2561D-1Y
SFH617A-3	PS2561D-1Y or PS2561DL1-1Y	TCET1113G	PS2561DL1-1Y	LTV-816-B	PS2561D-1Y
SFH617A-4	PS2561D-1Y or PS2561DL1-1Y	TCET1114	PS2561D-1Y	LTV-816-C	PS2561D-1Y
SFH617G-1	PS2561DL1-1Y-V	TCET1114G	PS2561DL1-1Y	LTV-816-D	PS2561D-1Y
SFH617G-2	PS2561DL1-1Y-V	TCET1115	PS2561D-1Y	LTV-816-L	PS2561D-1Y
Vishay	Renesas	TCET1115G	PS2561DL1-1Y	LTV-816M	PS2561DL1-1Y-V
SFH617G-3	PS2561DL1-1Y-V	TCET1116	PS2561D-1Y	LTV-816S	PS2561DL-1Y
SFH617G-4	PS2561DL1-1Y-V	TCET1116G	PS2561DL1-1Y	LTV-817	PS2561D-1Y
SFH6186-2	PS2503L-1	TCET1117	PS2561D-1Y	LTV-817-A	PS2561D-1Y
SFH6186-3	PS2503L-1	TCET1117G	PS2561DL1-1Y	LTV-817-B	PS2561D-1Y
SFH6186-4	PS2503L-1	TCET1118	PS2561D-1Y	Liteon	Renesas
SFH6186-5	PS2503L-1	TCET1118G	PS2561DL1-1Y	LTV-817-C	PS2561D-1Y
SFH619A	PS2535-1 or PS2535L-1	TCET1119	PS2561D-1Y	LTV-817-D	PS2561D-1Y
SFH620-1	PS2565-1	TCET1119G	PS2561DL1-1Y	LTV-817-L	PS2561D-1Y
SFH620-2	PS2565-1	TCET1600	PS2565-1	LTV-817M	PS2561DL1-1Y-V
SFH620-3	PS2565-1	Vishay	Renesas	LTV-817S	PS2561DL-1Y
SFH6206-1	PS2565L-1	TCLT1100	PS2381-1	LTV824	PS2565-1
SFH6206-2	PS2565L-1	TCLT1101	PS2381-1	LTV-852	PS2535-1
SFH6206-3	PS2565L-1	TCLT1102	PS2381-1	LTV-852S	PS2535L-1
SFH620AA	PS2565-1 or PS2565L-1	TCLT1103	PS2381-1	Cosmo	Renesas
SFH620AGB	PS2565-1 or PS2565L-1	TCLT1104	PS2381-1	K1010A	PS2561D-1Y
SFH6286-2	PS2565L-1	TCLT1105	PS2381-1	K1010B	PS2561D-1Y
SFH6286-3	PS2565L-1	TCLT1106	PS2381-1	K1010C	PS2561D-1Y
SFH6286-4	PS2565L-1	TCLT1107	PS2381-1	K1010D	PS2561D-1Y
SFH6343T	PS8802-1	TCLT1108	PS2381-1	K1010E	PS2561D-1Y
SFH6345	PS8502 or PS8502L1 or PS8502L3	TCLT1109	PS2381-1	KP4010A	PS2535-1
SFH655A	PS2562-1 or PS2562L-1	TCLT1110	PS2381-1	KP4010C	PS2535-1
SFH6755T	PS9817A-2	TCLT1111	PS2381-1	KP4010D	PS2533-1
SFH6756T	PS9817A-2	TCLT1112	PS2381-1	KP4010E	PS2535-1
		TCLT1113	PS2381-1	KPC354NT	PS2715-1
		TCLT1114	PS2381-1	KPC355NT	PS2702-1
		TCLT1115	PS2381-1	KPC357NT	PS2701A-1
		TCLT1116	PS2381-1	KPC452	PS2733-1
		TCLT1117	PS2381-1	KPC6N135	PS8501
		TCLT1118	PS2381-1	KPC6N136	PS8501
		TCLT1119	PS2381-1	KPC815	PS2535-1
		TCMD1000	PS2802-1	KPS2801	PS2801C-1
		TCMD4000	PS2802-4	KPS2802	PS2802-1
		TCMT1100	PS2801C-1	KPS2805	PS2805-1
		TCMT1101	PS2801C-1	KPS2832	PS2833-1
		TCMT1102	PS2801C-1		
		TCMT1103	PS2801C-1		
		TCMT1104	PS2801C-1		
		TCMT1105	PS2801C-1		
		TCMT1106	PS2801C-1		
		TCMT1107	PS2801C-1		
		TCMT1108	PS2801C-1		
		TCMT1109	PS2801C-1		
		TCMT1600	PS2805C-1		

Industrial Application Examples

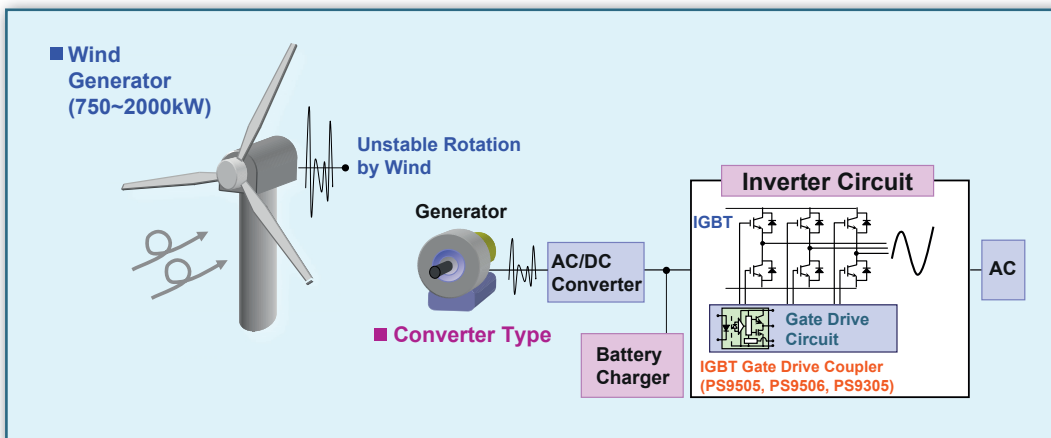
Solar Inverter using Renesas high-speed/standard couplers



PS9X13

- 1 Mbit/s IPM Drive
- High Output Voltage (35 V)
- High Isolation (upto 5 KV)

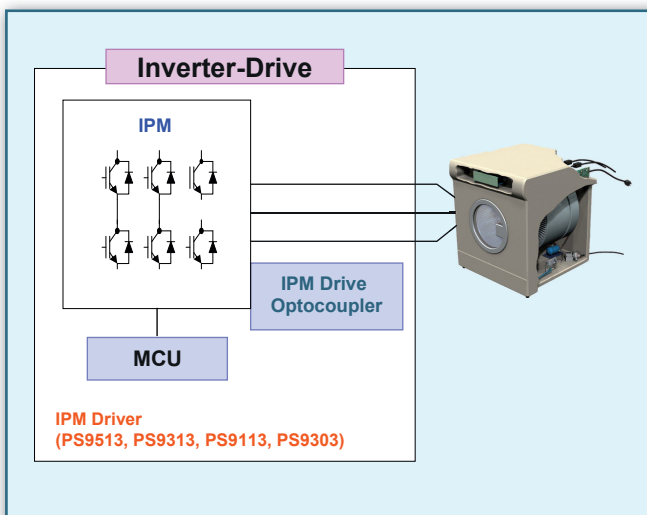
Wind Turbine using Renesas IGBT couplers



PS950X

- IGBT High Speed Gate Drive
- High Isolation (upto 5 KV)
- Creepage distance upto 8 mm

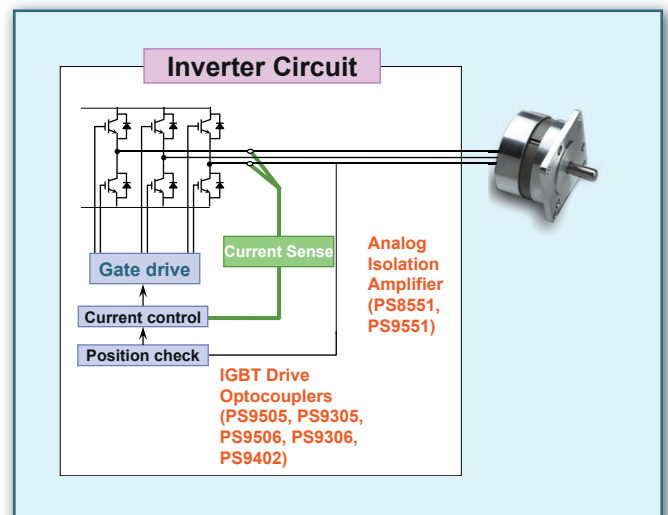
Washing Machine using Renesas IPM driver



PS9XX3

- IPM Driver
- Totem Pole Output
- High Isolation

Industrial Motor using Renesas high-speed couplers



PSX551

- Analog Isolation Amplifier
- High Linearity
- High Accuracy

Glossary

BV	Isolation Voltage	t_{off}	Turn-off Time
CM_{H}	Common Mode Transient Immunity at High Level Output	t_{PHL}	Propagation Delay Time (H → L)
CM_{L}	Common Mode Transient Immunity at Low Level Output	t_{PLH}	Propagation Delay Time (L → H)
CTR	Current Transfer Ratio	$ t_{\text{PHL}} - t_{\text{PLH}} $	Pulse Width Distortion (PWD)
I_{C}	Collector Current	V_{CC}	Supply Voltage
I_{F}	LED forward Current	$V_{\text{CC}} - V_{\text{EE}}$	Supply Voltage (IGBT-Drive Optocoupler)
I_{FHL}	Threshold Input Current	V_{CE}	Collector to Emitter Voltage
I_{O}	Output Current per channel	V_{CEO}	Collector to Emitter Voltage
R_{L}	Load Resistance	V_{DD}	Supply Voltage (CMOS Output Type Optocoupler)
T_{A}	Operating Ambient Temperature	V_{O}	Output Voltage
t_{d}	Delay Time	V_{IORM}	Isolation Working Voltage (with DIN EN60747-5-2 option)
t_{r}	Rise Time		
t_{on}	Turn-on Time		
t_{s}	Storage Time		
t_{f}	Fall Time		

Optocoupler Compass

Optocoupler Selection Guide

More information available at: www.renesas.eu/products/opto

Optocoupler samples: Sampleorder_Opto-eu@lm.renesas.com

Before purchasing or using any Renesas Electronics products listed herein, please refer to the latest product manual and/or data sheet in advance.

RENESAS

