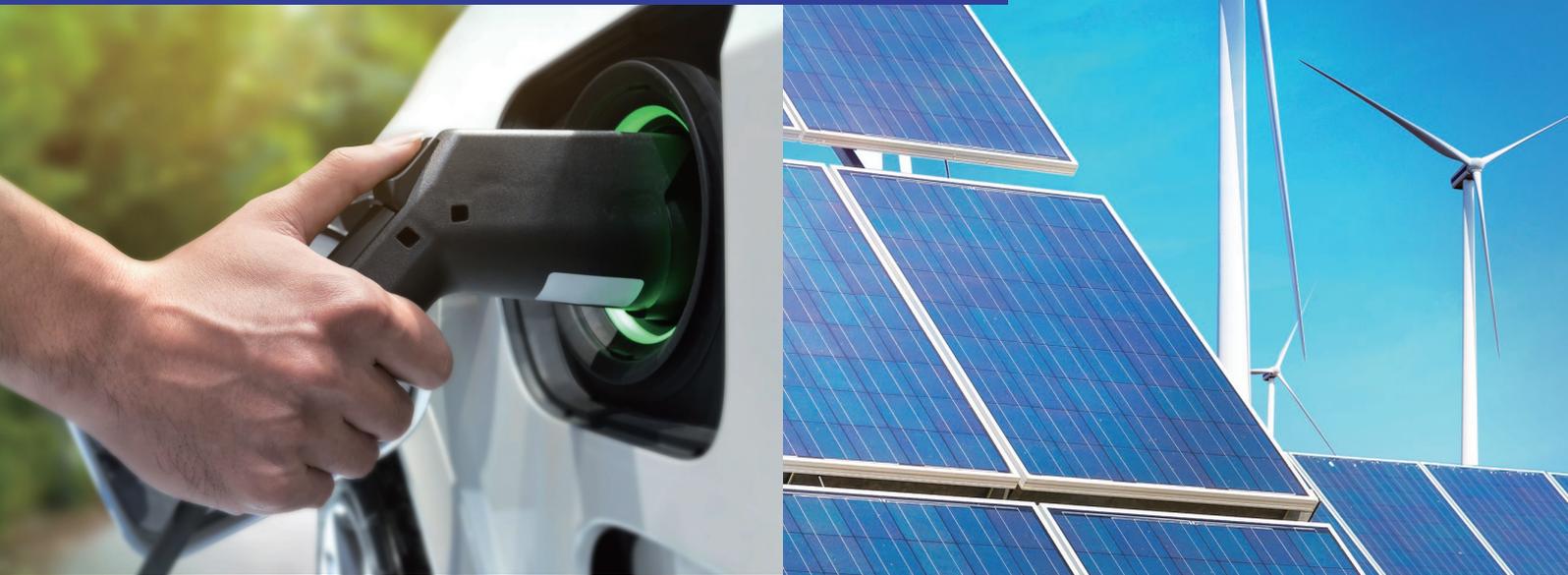


PHOTOCOUPLERS SELECTION GUIDE



SUITABLE PRODUCT FOR EACH APPLICATIONS

Renesas offers an array of flexible products suitable for a wide range of applications.

Application Field	Application Name	Motor Drive		Current/ Voltage monitor	Communication		Transistor Output
		IGBT drive	IPM drive		Communication		
					Digital output	Analog output	
Industry	AC Servo	•	•	•	•	•	•
	NC machine tools	•	•	•	•	•	•
	GAS / Water / Electric power Meter				•	•	•
	Smart meter				•	•	•
	Service Robot						•
	Industrial Robot	•	•	•	•	•	•
	Buttery system	•	•	•	•	•	•
	Solar power conditioner	•	•	•	•	•	•
	UPS	•	•	•	•	•	•
	Welding machine	•	•	•	•	•	•
	Semiconductor manufacturing equipment				•	•	•
	Tester / measurement device	•	•		•	•	•
	PLC	•	•		•	•	•
	Network Camera				•		•
	Vending machine	•				•	•
	Electric tools	•	•		•	•	•
	Security sensor , camera		•		•	•	•
	Industrial LED light						•
Communication	Server						•
	Network Switch				•	•	•
	Router				•		•
	Wireless base station				•		•
	Line-phone				•		•
	Infrastructure Switch		•		•		•
	Broadcast apparatus						•
Consumer	Video / Audio		•		•	•	•
	TB				•		•
	STB						•
	Camera		•		•	•	•
	Game(Portable / Stationary)						•
	Pachinko				•	•	•
	Air Conditioner	•	•		•	•	•
	Lightings				•	•	•
	Washing machine		•		•	•	•
	Refrigerator	•					•
IH Cooker	•			•	•	•	
OA	Scanner						•
	HDD						•
	POS				•	•	•
	PPC / Printer				•		•
	Server / Workstation / Super Comsuter	•	•		•	•	•
	Desktop PC				•		•
	Mobile PC / Tablet				•		•
	Monitor						•

PHOTOCOUPLER LINE-UP

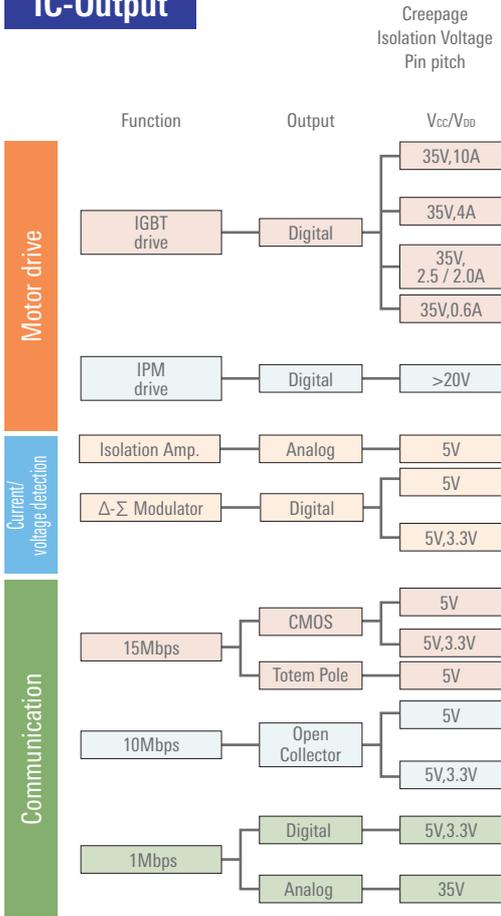
Renesas offers photocouplers targeted to specific applications, from high-speed products for motor drive and communication to general-purpose Tr. output products.

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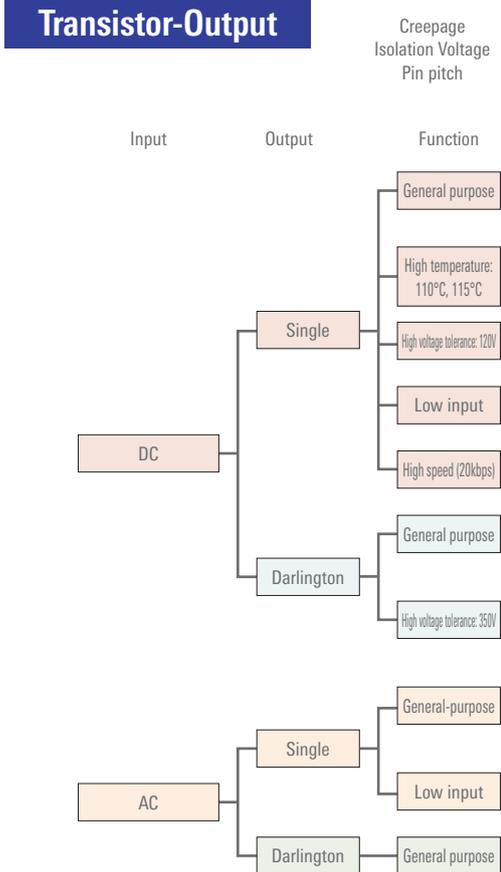
<https://www.renesas.com/products/interface-connectivity/optoelectronics>

IC-Output



DIP8 7/8 mm 5 kV 2.54 mm	SDIP6/8 7/8 mm 5 kV 1.27 mm	LSDIP8 15 mm 7.5 kV 1.27 mm	LSO5 8 mm 5 kV 1.27 mm	S05 4.2 mm 3.75 kV 1.27 mm	LSS05 8.2 mm 5 kV 0.65 mm	S08 4 mm 2.5 kV 1.27 mm	S016 8 mm 5 kV 1.27 mm
		RV1S9993A RV1S9994A					
		RV1S9991A RV1S9992A	RV1S9091A RV1S9092A		RV1S9291A RV1S9292A		
PS9531	PS9331 PS9332	PS9905	PS9031		RV1S9231A		PS9402
PS9506	PS9307A				RV1S9207A		
PS9513	PS9313 PS9303 PS9309		PS9013 RV1S9062A PS9009 RV1S9061A	PS9113 RV1S9162A RV1S9161A	RV1S9213A RV1S9262A RV1S9209A RV1S9261A		
PS8551A PS9551A	PS8352A						
	RV1S9353A RV1S9355A RV1S9356A						
	PS9351			PS9151		PS9851-1 PS9851-2	
		RV1S9960A	RV1S9060A	RV1S9160A	RV1S9260A		
				PS9123			
PS9587	PS9317		PS9001	PS9117A		PS9817A-1 PS9817A-2	
	PS9324	PS9924		PS9124		PS9821-1 PS9821-2	
				PS9122		PS9822-1 PS9822-2	
PS8501 PS8502	PS8302	PS8902		PS8101		PS8802-1 PS8802-2	

Transistor-Output



DIP4 7/8 mm 5 kV 2.54 mm	LSOP 8 mm 5 kV 2.54 mm	SOP 5 mm 3.75 kV 2.54 mm	LSSOP4 8.2 mm 5 kV 1.3 mm	LSDIP8 15 mm 7.5 kV 1.27 mm	SSOP 4/4.5/5 mm 1.5/2.5/3.75 kV 0.8/1.27 mm	Flat lead 4 mm 2.5 kV 1.27 mm
		PS2701A-1			PS2801C-1/4	
PS2561D-1 PS2561F-1	PS2381-1	PS2761B-1	RV1S2281A		PS2861B-1	
		PS2703-1				PS2913-1
		PS2711-1	RV1S2211A RV1S2251A	RV1S2451A	PS2811-1/4 PS2841-4A/4B	PS2911-1 RV1S2951A
PS2514-1						
PS2562-1		PS2702-1			PS2802-1/4	
PS2533-1 PS2535-1		PS2733-1			PS2833-1/4	PS2933-1
PS2565-1		PS2705A-1	RV1S2285A		PS2805C-1/4	
		PS2715-1	RV1S2255A		PS2815-1/4 PS2845-4A	PS2915-1 RV1S2955A
PS2506-1		PS2706-1				

PHOTOCOUPLER PRODUCTS

SELECTION GUIDE

IGBT Drive

Function	Part No.	Output Peak Current [A]	Power Supply Voltage [V]	Package		Isolation Voltage [Vr.m.s.]	Ta max. [°C]	Electrical Characteristics					Protection Functions		
				Configuration	Creepage Distance [mm]			DC	SW			Protection			
									IFLH max. [mA]	tpHL, LH max. [ns]	PWD max. [ns]	PDD [ns]	CMTI min. [kV/μs]	UVLO	Clamp
IGBT Drive	PS9307A	0.6	10 to 30	SDIP6	L:7 L2:8	5000	125	5.0	150	50	-80 to 80	50	○	-	-
	RV1S9207A			LSSO5	8.2	5000	125	5.0	150	50	-80 to 80	50	○	-	-
	PS9506			DIP8	-/L3:7 L1/L2:8	5000	110	7.0	400	250	-300 to 300	25	-	-	-
	PS9031	2.5	15 to 30	LSO5	8	5000	125	4.0	175	75	-90 to 90	50	○	-	-
	RV1S9231A			LSSO5	8.2	5000	125	5.2	175	75	-90 to 90	50	○	-	-
	PS9331			SDIP6	L:7 L2:8	5000	125	4.0	175	75	-90 to 90	50	○	-	-
	PS9531			DIP8	-/L3:7 L1/L2:8	5000	125	4.0	175	75	-90 to 90	50	○	-	-
	PS9905			LSDIP8	15	7500	110	6.0	150	75	-100 to 100	25	○	-	-
	PS9332			SDIP8	L:7 L2:8	5000	125	4.0	200	75	-90 to 90	50	○	○	-
	PS9402	2.5	15 to 30	SO16	8	5000	110	5.0	200	100	-100 to 100	25	○	○	○
	RV1S9091A	4	10 to 30	LSO5	8	5000	125	6.0	95	35	-35 to 35	100	○	-	-
	RV1S9092A		13 to 30	LSO5	8	5000	125	6.0	95	35	-35 to 35	100	○	-	-
	RV1S9291A		10 to 30	LSSO5	8.2	5000	125	6.0	95	35	-35 to 35	100	○	-	-
	RV1S9292A		15 to 30	LSSO5	8.2	5000	125	6.0	95	35	-35 to 35	100	○	-	-
	RV1S9991A		10 to 30	LSDIP8	15	7500	125	8.0	95	35	-35 to 35	100	○	-	-
	RV1S9992A		15 to 30	LSDIP8	15	7500	125	8.0	95	35	-35 to 35	100	○	-	-
	RV1S9993A		10 to 30	LSDIP8	15	7500	125	8.0	95	35	-35 to 35	100	○	-	-
	RV1S9994A		15 to 30	LSDIP8	15	7500	125	8.0	95	35	-35 to 35	100	○	-	-

IPM Drive

Function	Part No.	Output Type	Logic	Package		Recommended Operating Conditions	Absolute Maximum Ratings		Electrical Characteristics					
				Configuration	Creepage Distance [mm]		Power Supply Voltage [V]	Isolation Voltage [Vr.m.s.]	Ta max. [°C]	DC	SW			
											IFHL/LH max. [mA]	tpHL/LH max. [ns]	PWD max. [ns]	PDD max. [ns]
IPM Drive	RV1S9161A	Totem Pole	Active High	S05	4.2	4.5 to 30	3750	125	3.0	60	20	25	100	
	PS9009			LSO5	8	4.5 to 20	5000	125	3.0	200	80	100	50	
	RV1S9061A			LSSO5	8.2	4.5 to 30	5000	125	4.5	60	20	25	100	
	RV1S9209A					4.5 to 20	5000	125	3.8	200	80	100	50	
	RV1S9261A					4.5 to 30	5000	125	4.0	60	20	25	100	
	PS9309			SDIP6	L:7 L2:8	4.5 to 20	5000	110	3.0	200	80	80	15	
	PS9303			SDIP6	L:7 L2:8	4.5 to 20	5000	100	5.0	500	350	-	15	
	RV1S9162A			Open Collector	Active Low	S05	4.2	4.5 to 30	3750	125	3.0	60	20	25
	RV1S9062A	LSO5	8			4.5 to 30	5000	125	4.1	60	20	25	100	
	RV1S9262A	LSSO5	8.2			4.5 to 30	5000	125	4.0	60	20	25	100	
	PS9513	DIP8	-/L3:7 L1/L2:8			4.5 to 20	5000	100	5.0	500 750	650	650	15	
	PS9013	LSO5	8			4.5 to 25	5000	125	5.0	500 750	650	650	50	
	RV1S9213A	LSSO5	8.2			4.5 to 25	5000	125	5.0	500/750	650	650	50	
	PS9313	SDIP6	L:7 L2:8			4.5 to 20	5000	110	5.0	500 750	650	650	15	
PS9113	S05	4.2	4.5 to 20			3750	100	5.0	500 750	650	650	15		

Isolation Amplifiers

Function	Part No.	Output	Package		Absolute Maximum Ratings		Electrical Characteristics							
			Configuration	Creepage Distance [mm]	Isolation Voltage [Vr.m.s.]	Ta max. [°C]	Input Voltage Linearity Range [mV]	Gain typ. [V/V]	Gain Error Max. [%]	NL typ. [%]	VDD2 [V]	CMR min. [kV/μs]	fc typ. [kHz]	Output Type
Isolation amplifier	PS8551A	Analog	DIP8	8	5000	105	-200 to 200	8	1	0.014	5	10	100	Differential
	PS8352A		SDIP8	8	5000	110	-200 to 200	8	1	0.014	5	10	100	Differential

Δ - Σ Modulators

Function	Part No.	Output	Package		Absolute Maximum Ratings		Electrical Characteristics							
			Configuration	Creepage Distance [mm]	Isolation Voltage [Vr.m.s.]	Ta max. [°C]	Input Voltage Linearity Range [mV]	Gain Error Max. [%]	INL typ. [LSB]	VDD2 [V]	ENOB typ. [bits]	CMTI min. [kV/μs]	fCLK typ. [MHz]	
Δ - Σ Modulators	PS9551A	Digital	DIP8	8	5000	105	-200 to 200	1	3	5	12	15	10	
	RV1S9353A		SDIP8	8	5000	110	-200 to 200	0.5	3	3.3/5	13.8	15	10	
	RV1S9355A		SDIP8	8	5000	125	-250 to 250	0.5	3	3.3/5	14	50	20	
	RV1S9356A		SDIP8	8	5000	125	-250 to 250	0.5	3	3.3/5	14	50	20	

High-Speed Communication (Analog)

Function	Part No.	Speed [bps]	Output Type	Logic	Absolute Maximum Rated Power Supply Voltage [V]	Package		Isolation Voltage [Vr.m.s.]	Ta max. [°C]	Electrical Characteristics						
						Configuration	Creepage Distance [mm]			Detector				Coupled		
										IOH @Vcc30V max. [μA]	VOL max. [V]	ICCL typ. [μA]	ICCH max. [μA]	CTR@ IF 16mA Vcc 4.5V Vo 0.4V [%]	tpHL/LH max. [ns]	CMR min. [kV/μs]
High-Speed Communication (Analog)	PS8101	1M	Open Collector	Active Low	35	S05	4.2	3750	100	100	0.4	50	2	15 to 35	800/1200	15
	PS8802-1/2					S08	4.0	2500	100	100	0.4	100/200	2/4	15 and Over	800/1200	15
	PS8302					SDIP6	L:7 L2:8	5000	110	100	0.4	150	1	15 and Over	800/800	15
	PS8501					DIP8	-L:3:7 L1/L2:8	5000	100	100	0.4	150	1	15 and Over	800/800	-
	PS8502									100	0.4	150	1	15 and Over	800/800	15
	PS8902					LSDIP8	15	7500	110	100	0.4	50	2	15 to 35	800/1200	15

High-Speed Communication (Digital)

Function	Part No.	Speed [bps]	Output Type	Logic	Power Supply Voltage [V]	Package		Isolation Voltage [Vr.m.s.]	Ta max. [°C]	DC			AC					
						Configuration	Creepage Distance [mm]			VOL max. [V]	VOH min. [V]	ICCL/H max. [mA]	IFHL max. [mA]	tpHL/LH max. [ns]	PWD max. [ns]	tpsk max. [ns]	CMR min. [kV/μs]	
High-Speed Communication (Digital)	PS9122	1M	Open Collector	Active Low	N 2.7~3.6, L 4.5~5.5	S05	4.2	3750	100	0.6	-	3.5/2.5	5.0	500/700	200	-	15	
	PS9822-1/2					S08	4.0	2500	100	0.6	-	3.5/2.5	5.0	500/700	200	-	-	
	PS9124	10M	Open Collector		2.7~3.6 & 4.5~5.5	S05	4.2	3750	110	0.6	-	10/7	3.0	100/100	35	40	10	
	PS9324					SDIP6	L:7 L2:8	5000	110	0.6	-	10/7	3.0	100/100	35	40	15	
	PS9924				LSDIP8	15	7500	110	0.6	-	10/7	5.0	100/100	35	40	15		
	PS9821-1/2				S08	4.0	2500	85	0.6	-	10/7	5.0	100/100	35	40	15		
	PS9587				DIP8	-L:3:7 L1/L2:8	5000	85	0.6	-	11/8	5.0	100/100	50	60	15		
	PS9317																SDIP6	L:7 L2:8
	PS9001				LS05	8.0	5000	125	0.6	-	2/2	4.0	100/100	50	60	50		
	PS9117A				S05	4.2	3750	85	0.6	-	10/7	5.0	100/100	35	40	15		
	PS9817A-1/2				S08	4.0	2500	85	0.6	-	10/7	5.0	100/100	35	40	15		
	PS9123				15M	Totem Pole	CMOS	4.5~5.5	S05	4.2	3750	100	0.6	2.4	10/7	5.0	60/60	30
	PS9151	4.5~5.5	S05					4.2	3750	100	0.1	4.0	5/5	5.0	60/60	30	40	15
	RV1S9160A	2.7~5.5	S05			4.2	3750	125	0.1	VDD-0.1	2/2	2	60/60	20	25	50		
	PS9851-1/2	4.5~5.5	S08			4.0	2500	100	0.1	4.0	5/5	6.0	60/60	30	40	10		
	RV1S9060A	2.7~5.5	LS05			8	5000	125	0.1	VDD-0.1	2/2	2.2	60/60	20	25	50		
	RV1S9260A	2.7~5.5	LSS05			8.2	5000	125	0.1	VDD-0.1	2/2	2.6	60/60	20	25	50		
PS9351	4.5~5.5	SDIP6	L:7 L2:8	5000		100	0.1	4.0	5/5	5.0	60/60	30	40	15				
RV1S9960A	2.7~5.5	LSDIP8	15	7500		110	0.1	VDD-0.1	2/2	3.8	60/60	20	25	50				

Transistor-Output (DC Input) Single

Function	Part No.	Output Type	Package		Absolute Maximum Ratings				Electrical Characteristics				
			Configuration	Creepage Distance [mm]	VCEO max. [V]	IC max. [mA]	Isolation Voltage [Vr.m.s.]	Ta max. [°C]	DC		SW		
									CTR %	tr typ. [μs]	tf typ. [μs]	ton typ. [μs]	toff typ. [μs]
Transistor-Output (DC Input)	PS2561D-1	Single	DIP4	-L:7 L1/L2:8	80	50	5000	110	50 to 400	3	5	–	–
	PS2561F-1		DIP4	7	80	50	5000	110	300 to 600	5	7	–	–
	PS2514-1		DIP4	7	40	20	5000	100	50 to 200	–	–	15	15
	PS2381-1		LSOP4	8	80	50	5000	115	50 to 400	4	5	–	–
	RV1S2281A		LSSOP4	8.2	80	30	5000	115	50 to 400	4	5	–	–
	PS2701A-1		SOP4	5	70	30	3750	100	50 to 300	5	7	8	10
	PS2761B-1		SOP4	5	70	50	3750	110	50 to 400	4	5	8	5
	PS2703-1		SOP4	5	120	30	3750	100	50 to 400	10	10	13	11
	PS2711-1		SOP4	5	40	40	3750	100	100 to 400	4	5	–	–
	PS2801C-1		SSOP4	4.5	80	30	2500	100	50 to 400	5	7	10	7
	PS2801C-4		SSOP16	4.5	80	30	2500	100	50 to 400	5	7	10	7
	PS2861B-1		SSOP4	5	70	50	3750	110	50 to 300	4	5	5	5
	PS2811-1		SSOP4	4.5	40	40	2500	100	100 to 400	4	5	7	5
	PS2811-4		SSOP16	4.5	40	40	2500	100	100 to 400	4	5	7	5
	RV1S2211A		LSSOP4	8.2	40	40	5000	115	100 to 400	4	5	–	–
	RV1S2251A		LSSOP4	8.2	40	80	5000	115	300 to 1000	5	6	–	–
	RV1S2451A		LSDIP8	15	40	80	7500	115	300 to 1000	5	6	–	–
	PS2841-4A		SSOP Common Leads	4	70	20	1500	100	100 to 400	–	–	20	110
	PS2841-4B		SSOP Common Leads	4	70	20	1500	100	100 to 400	–	–	20	110
	PS2911-1		Flat Leads	4	40	40	2500	100	100 to 400	5	10	40	120
PS2913-1	Flat Leads	4	120	30	2500	100	50 to 200	10	10	80	50		
RV1S2951A	Flat Leads	4	40	80	2500	115	300 to 800	5	6	–	–		

Transistor-Output (DC Input) Darlington

Function	Part No.	Output Type	Absolute Maximum Ratings		Package		Isolation Voltage [Vr.m.s.]	Ta max. [°C]	Electrical Characteristics						
			VCEO [V]	IC [mA/ch]	Configuration	Creepage Distance [mm]			DC			SW			
									CTR min. [%]	CTR max. [%]	VCE SAT [V]	tr typ. [μs]	tf typ. [μs]	ton typ. [μs]	toff typ. [μs]
Transistor-Output (DC Input)	PS2802-1	Darlington	40	90	SSOP4	4.5	2500	100	200	–	1.0	200	200	–	–
	PS2802-4			100	SSOP16	4.5	2500	100	200	–	1.0	200	200	–	–
	PS2562-1			200	DIP4	7	5000	100	200	–	1.0	100	100	–	–
	PS2702-1			200	SOP4	5	3750	100	200	–	1.0	70	60	90	60
	PS2833-1		60	SSOP4	4.5	2500	100	400	4500	1.0	20	5	–	–	
	PS2833-4		60	SSOP16	4.5	2500	100	400	4500	1.0	20	5	–	–	
	PS2535-1		120	DIP4	7	5000	100	400	5500	1.0	18	5	–	–	
	PS2533-1		150	DIP4	7	5000	100	1500	6500	1.0	100	100	–	–	
	PS2733-1		150	SOP4	5	2500	100	1500	–	1.0	100	100	–	–	
	PS2933-1		60	Flat Leads	4	2500	100	400	4500	1.0	20	5	–	–	

Transistor-Output (AC Input)

Function	Part No.	Output Type	Package		Absolute Maximum Ratings				Electrical Characteristics					
			Configuration	Creepage Distance [mm]	VCEO max. [V]	IC max. [mA]	Isolation Voltage [Vr.m.s.]	Ta max. [°C]	DC		SW			
									CTR %	tr typ. [μs]	tf typ. [μs]	ton typ. [μs]	toff typ. [μs]	
Transistor-Output (AC Input)	PS2565-1	Single	DIP4	7	80	50	5000	100	80 to 400	3	5	–	–	
	PS2705A-1		SOP4	5	70	30	3750	100	50 to 300	5	7	8	10	
	PS2715-1		SOP4	5	40	40	3750	100	100 to 400	4	5	–	–	
	PS2805C-1		SSOP4	4.5	80	30	2500	100	50 to 400	5	7	10	7	
	PS2805C-4		SSOP16	4.5	80	30	2500	100	50 to 400	5	7	10	7	
	PS2815-1		SSOP4	4.5	40	40	2500	100	100 to 400	4	5	7	5	
	PS2815-4		SSOP16	4.5	40	40	2500	100	100 to 400	4	5	7	5	
	RV1S2285A		LSSOP4	8.2	80	30	5000	115	50 to 400	4	5	–	–	
	RV1S2255A		LSSOP4	8.2	40	80	5000	115	300 to 1000	5	6	–	–	
	PS2845-4A		SSOP Common Leads	4	70	20	1500	100	100 to 400	–	–	20	110	
	PS2915-1		Flat Leads	4	40	40	2500	100	100 to 400	5	10	40	120	
	RV1S2955A		Flat Leads	4	40	80	2500	115	300 to 800	5	6	–	–	
	PS2506-1		Darlington	DIP4	7	40	200	5000	100	200 min.	100	100	–	–
	PS2706-1			SOP4	5	40	200	3750	100	200 min.	200	200	–	–

PACKAGE DIMENSIONS 1

Unit : mm

LS05	DIP8	SDIP6 (L)
LSDIP8	DIP8 (L1)	SDIP6 (L2)
S016	DIP8 (L3)	SDIP8 (L)
DIP8 (L4)	DIP8 (L2)	SDIP8 (L2)

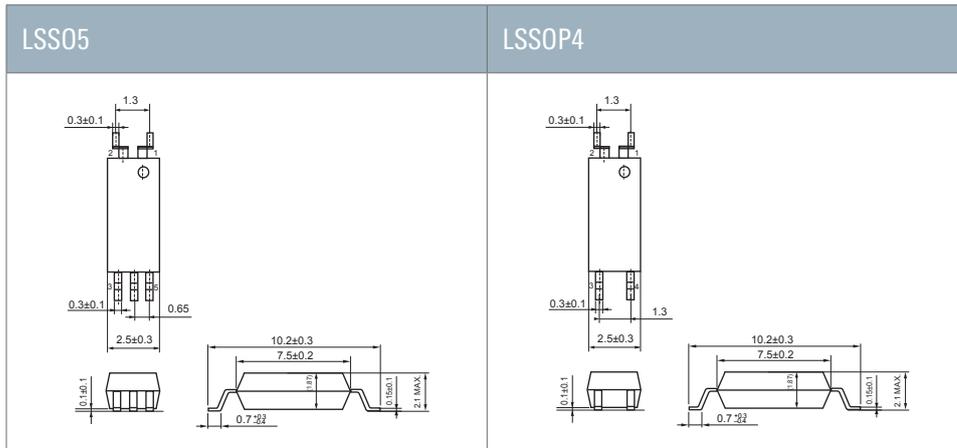
PACKAGE DIMENSIONS 2

Unit : mm

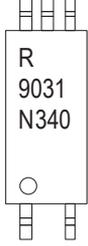
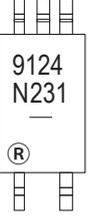
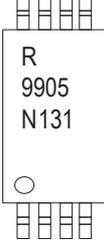
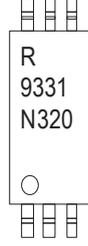
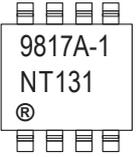
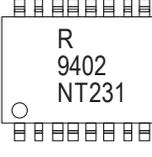
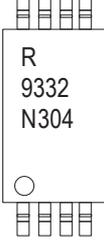
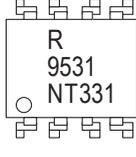
S05	DIP4	SSOP4
S08	DIP4 (L)	SSOP16
SOP	DIP4 (L1)	SSOP12
LSOP	DIP4 (L2)	Flat lead

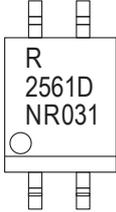
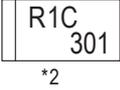
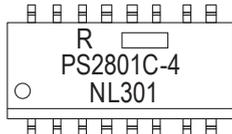
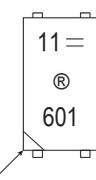
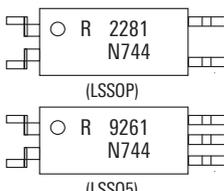
PACKAGE DIMENSIONS 3

Unit : mm



PACKAGE MARKING

LS05	S05
 <p>R : An initial of "Renesas" 9031 : Part Number N340 : Assembly Lot No.</p> <p>N 3 40 Weekly Serial Code Last one-digit of assembled year Rank Code</p> <p>○ : No.1 pin mark</p>	 <p>9124 : Part Number N231 : Assembly Lot No.</p> <p>N 2 31 Weekly Serial Code Last one-digit of assembled year Rank Code</p> <p>"—" : Pb free ⊗ : No.1 pin mark An initial of "Renesas" (Carved marking)</p>
LSDIP8	SDIP6
 <p>R : An initial of "Renesas" 9905 : Part Number N131 : Assembly Lot No.</p> <p>N 1 31 Weekly Serial Code Last one-digit of assembled year Rank Code</p> <p>○ : No.1 pin mark</p>	 <p>R : An initial of "Renesas" 9331 : Part Number N320 : Assembly Lot No.</p> <p>N 3 20 Weekly Serial Code Last one-digit of assembled year Rank Code</p> <p>○ : No.1 pin mark</p>
S08	S016
 <p>9817A-1 : Part Number NT131 : Assembly Lot No.</p> <p>N T 1 31 Weekly Serial Code Last one-digit of assembled year Internal Symbol (T:Pb free, Ni/Pd/Au plating on the electrode) Rank Code</p> <p>⊗ : No.1 pin mark An initial of "Renesas" (Carved marking)</p>	 <p>R : An initial of "Renesas" 9402 : Part Number NT231 : Assembly Lot No.</p> <p>N T 2 31 Weekly Serial Code Last one-digit of assembled year Internal Symbol (T:Pb free) Rank Code</p> <p>○ : No.1 pin mark</p>
SDIP8	DIP8
 <p>R : An initial of "Renesas" 9332 : Part Number N340 : Assembly Lot No.</p> <p>N 3 04 Weekly Serial Code Last one-digit of assembled year Rank Code</p> <p>○ : No.1 pin mark</p>	 <p>R : An initial of "Renesas" 9531 : Part Number NT331 : Assembly Lot No.</p> <p>N T 3 31 Weekly Serial Code Last one-digit of assembled year Internal Symbol (T:Pb free) Rank Code</p> <p>○ : No.1 pin mark</p>

<p>DIP4</p>  <p>R : An initial of "Renesas" 2561D : Part Number as excluding "PS2" NR031 : Assembly Lot No.</p> <p>N R 0 31 Weekly Serial Code Last one-digit of assembled year Internal Symbol (R : Assembly in Japan, Y: Assembly in TAIWAN) Rank Code</p> <p>○ : No.1 pin mark</p> <table border="1" data-bbox="215 1048 654 1142"> <tr> <td>Assembled Country</td> <td>TAIWAN</td> <td>TAIWAN</td> <td>JAPAN</td> <td>JAPAN</td> </tr> <tr> <td>Halogen Free</td> <td></td> <td>○</td> <td></td> <td>○</td> </tr> <tr> <td>*2:Marking</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Assembled Country	TAIWAN	TAIWAN	JAPAN	JAPAN	Halogen Free		○		○	*2:Marking					<p>SOP</p>  <p>R : An initial of "Renesas" 701A : Part Number as excluding "PS2" N301 : Assembly Lot No.</p> <p>N 3 01 Weekly Serial Code Last one-digit of assembled year Rank Code</p> <p>○ : No.1 pin mark</p> <table border="1" data-bbox="941 560 1364 672"> <tr> <td>Assembled Country</td> <td>TAIWAN</td> <td>TAIWAN</td> <td>JAPAN</td> <td>JAPAN</td> </tr> <tr> <td>Halogen Free</td> <td></td> <td>○</td> <td></td> <td>○</td> </tr> <tr> <td>*1, *2:Marking</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Assembled Country	TAIWAN	TAIWAN	JAPAN	JAPAN	Halogen Free		○		○	*1, *2:Marking				
Assembled Country	TAIWAN	TAIWAN	JAPAN	JAPAN																											
Halogen Free		○		○																											
*2:Marking																															
Assembled Country	TAIWAN	TAIWAN	JAPAN	JAPAN																											
Halogen Free		○		○																											
*1, *2:Marking																															
<p>SSOP4</p>  <p>R1C : An initial of "Renesas" and Part Number 1C : Last 2 digits of Part Number (*1) *1: When the second digit from bottom of Part Number is "0", only marked last 1 digit. An initial of "Renesas" 301 : Assembly Lot No.</p> <p>N 3 01 Weekly Serial Code Last one-digit of assembled year</p> <table border="1" data-bbox="215 1048 654 1142"> <tr> <td>Assembled Country</td> <td>TAIWAN</td> <td>TAIWAN</td> <td>JAPAN</td> <td>JAPAN</td> </tr> <tr> <td>Halogen Free</td> <td></td> <td>○</td> <td></td> <td>○</td> </tr> <tr> <td>*2:Marking</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Assembled Country	TAIWAN	TAIWAN	JAPAN	JAPAN	Halogen Free		○		○	*2:Marking					<p>SSOP16</p>  <p>R : An initial of "Renesas" PS2801C-4 : Part Number NL301 : Assembly Lot No.</p> <p>N 3 01 Weekly Serial Code Last one-digit of assembled year Internal Symbol L: Pb Free Rank Code</p> <p>○ : No.1 pin mark □ : Assembled Country</p>															
Assembled Country	TAIWAN	TAIWAN	JAPAN	JAPAN																											
Halogen Free		○		○																											
*2:Marking																															
<p>LSOP</p>  <p>R : An initial of "Renesas" 2381 : Part Number as excluding "PS" N031 : Assembly Lot No.</p> <p>N 0 31 Weekly Serial Code Last one-digit of assembled year Rank Code</p> <p>○ : No.1 pin mark</p>	<p>Flat lead</p>  <p>R : An initial of "Renesas" 11 : Part Number as excluding "PS29" ex) PS2911 -> 11 601 : Assembly Lot No.</p> <p>6 01 Weekly Serial Code Last one-digit of assembled year</p> <p>= : Pb free</p> <p>No.1 pin mark</p>																														
<p>SSOP12</p>  <p>R : An initial of "Renesas" 2841A : Part Number as underlined of PA2841-4A NL601 : Assembly Lot No.</p> <p>N L 6 01 Weekly Serial Code Last one-digit of assembled year Internal Symbol L: Pb Free Rank Code</p> <p>○ : No.1 pin mark</p>	<p>LSSOP4 / LSSO5</p>  <p>R : An initial of "Renesas" 2281 : Part Number 9261 : Part Number N744 : Assembly Lot No.</p> <p>N 7 44 Weekly Serial Code Last one-digit of assembled year Rank Code</p> <p>○ : No.1 pin mark</p>																														

PACKAGE STRUCTURE 1

Package		LSDIP8	LS05	S05	S016	DIP8 (L4)	SDIP8 (L2)	
Structure								
Package		LSDIP8	LS05	S05	S016	DIP8 (L4)	SDIP8 (L2)	
Air Distance	[mm]	14.5	8	4.2	8	8	8	
Creepage	[mm]	14.5	8	4.2	8	8	8	
Isolation Distance	[mm]	0.4 / 0.15 *	0.15	0.2	0.4	0.4	0.4	
CTI	[-]	175	400	175	175	175	175	
Isolation Voltage	[Vr.m.s.]	7500	5000	3750	5000	5000	5000	
VIORM	[Vpeak]	1600	1130	707	1130	1130	1130 / 1500 *	
VIOTM	[Vpeak]	12000	8000	6000	8000	8000	8000	
Part Number	VDE (Option)	PS9905 PS9924 PS8902 RV1S9960A RV1S9991A RV1S9992A RV1S9993A RV1S9994A * RV1S2451A	PS9031 PS9009 PS9013 PS9001 RV1S9060A RV1S9061A RV1S9062A RV1S9091A RV1S9092A	PS9113 PS9151 PS9123 PS9117A PS9124 PS9122 PS8101 RV1S9160A RV1S9161A RV1S9162A	PS9402	PS8551AL4 PS9551AL4	PS8352AL2 * RV1S9353A * RV1S9355A * RV1S9356A	

Package		DIP8	DIP8 (L1)	DIP8 (L3)	DIP8 (L2)	SDIP6 (L)	SDIP6 (L2)	SDIP8 (L)	SDIP8 (L2)	S08
Structure										
Package		DIP8	DIP8 (L1)	DIP8 (L3)	DIP8 (L2)	SDIP6 (L)	SDIP6 (L2)	SDIP8 (L)	SDIP8 (L2)	S08
Air Distance	[mm]	7	8	7	8	7	8	7	8	4
Creepage	[mm]	7	8	7	8	7	8	7	8	4
Isolation Distance	[mm]	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.2
CTI	[-]	175	175	175	175	175	175	175	175	175
Isolation Voltage	[Vr.m.s.]	5000	5000	5000	5000	5000	5000	5000	5000	2500
VIORM	[Vpeak]	1130	1130	1130	1130	1130	1130	1130	1130	566
VIOTM	[Vpeak]	8000	8000	8000	8000	8000	8000	8000	8000	4000
Part Number	VDE (Option)	PS9531 PS9506 PS9513 PS9587 PS8501 PS8502	PS9531L1 PS9506L1 PS9513L1 PS9587L1 PS8501L1 PS8502L1	PS9531L3 PS9506L3 PS9513L3 PS9587L3 PS8501L3 PS8502L3	PS9531L2 PS9506L2 PS9513L2 PS9587L2 PS8501L2 PS8502L2	PS9307AL PS9331L PS9317L PS9313L PS9303L PS9309L PS9351L PS9324L PS8302L	PS9307AL2 PS9331L2 PS9317L2 PS9313L2 PS9303L2 PS9309L2 PS9351L2 PS9324L2 PS8302L2	PS9332L	PS9332L2	PS9817A-1 PS9817A-2 PS9851-1 PS9851-2 PS9821-1 PS9821-2 PS9822-1 PS9822-2

Package		DIP4			DIP4 (L1)		DIP4 (L)			DIP4 (L2)		LSOP	
Structure													
Package		DIP4			DIP4 (L1)		DIP4 (L)			DIP4 (L2)		LSOP	
Air Distance	[mm]	7	7	7	8	7	7	7	7	8	7	8	
Creepage	[mm]	7	7	7	8	7	7	7	7	8	7	8	
Isolation Distance	[mm]	0.4	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.4	
CTI	[-]	175	175	175	175	175	175	175	175	175	175	175	
Isolation Voltage	[Vr.m.s.]	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	
VIORM	[Vpeak]	890	890	—	1130	890	890	890	—	1130	890	1130	
VIOTM	[Vpeak]	8000	8000	—	8000	8000	8000	8000	—	8000	8000	8000	
Part Number	VDE (Option)	PS2561D-1 PS2533-1 PS2535-1 PS2565-1	PS2514-1		PS2561DL1-1	PS2562L1-1 PS2565L1-1	PS2561DL-1 PS2533L-1 PS2535L-1 PS2565L-1	PS2514L-1		PS2561DL2-1	PS2562L2-1 PS2565L2-1	PS2381-1	
	No VDE Option	PS2561F-1		PS2506-1			PS2561FL-1		PS2506L-1				

Package		SOP			SSOP4		SSOP16	SSOP12		Flat lead	
Structure											
Package		SOP			SSOP4		SSOP16	SSOP12		Flat lead	
Air Distance	[mm]	5	5	5	4.5	5	4.5	4		4	
Creepage	[mm]	5	5	5	4.5	5	4.5	4		4	
Isolation Distance	[mm]	0.3	0.3	0.4	0.1	0.4	0.1	0.4		0.4 / 0.15 *	
CTI	[-]	175	175	175	175	175	175	175		175	
Isolation Voltage	[Vr.m.s.]	3750	2500	3750	2500	3750	2500	1500		2500	
VIORM	[Vpeak]	707	707	707	705	710	705	—		570	
VIOTM	[Vpeak]	6000	4000	6000	6000	6000	6000	—		4000	
Part Number	VDE (Option)	PS2701A-1 PS2703-1 PS2702-1 PS2705A-1 PS2706-1 PS2711-1 PS2715-1	PS2733-1	PS2761B-1	PS2801C-1 PS2811-1 PS2833-1 PS2802-1 PS2805C-1 PS2815C-1	PS2861B-1	PS2801C-4 PS2811-4 PS2833-4 PS2802-4 PS2805C-4 PS2815C-4			PS2911-1 PS2913-1 PS2915-1 PS2933-1 * RV1S2951A * RV1S2955A	
	No VDE Option							PS2841-4A PS2841-4B PS2845-4A			

Internal Structure is a reference image

PACKAGE STRUCTURE 2

Package		LSS05	LSS0P4
Structure			
Package		LSS05	LSS0P4
Air Distance	[mm]	8.2	8.2
Creepage	[mm]	8.2	8.2
Isolation Distance	[mm]	0.15	0.15
CTI	[-]	400	400
Isolation Voltage	[Vr.m.s.]	5000	5000
VIORM	[Vpeak]	1075	1100 / 900 *
VIORM	[Vpeak]	8000	8000
Part Number	VDE (Option)	RV1S9207A RV1S9209A RV1S9213A RV1S9231A RV1S9260A RV1S9261A RV1S9262A RV1S9291A RV1S9292A	RV1S2211A RV1S2281A RV1S2285A * RV1S2251A * RV1S2255A

RECOMMENDED LAND PATTERN

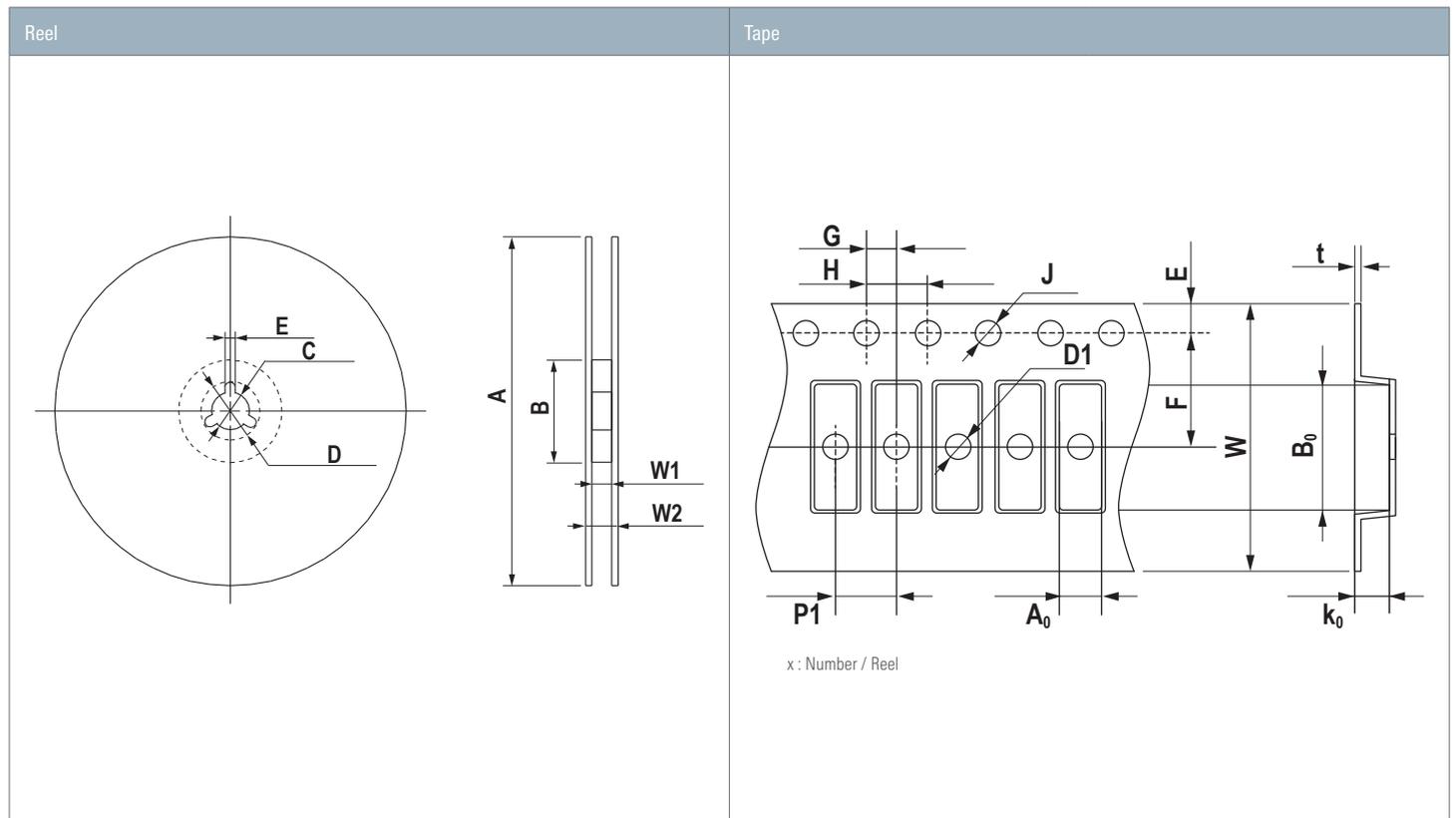
Unit : mm

LS05	DIP4 (L)	SDIP6
<p>Diagram showing land pattern for LS05. Dimensions: 1.27, 0.8, 1.3, 9.5, 2.54.</p>	<p>Diagram showing land pattern for DIP4 (L). Dimensions: 1.7, 2.2, 8.2, 2.54.</p>	<p>Diagram showing land pattern for SDIP6. Dimensions: 1.27, 0.8, 2.2, 9.2.</p>
LSDIP8	DIP4 (L2)	SDIP6 (L2)
<p>Diagram showing land pattern for LSDIP8. Dimensions: 1.27, 0.9, 2, 16.6.</p>	<p>Diagram showing land pattern for DIP4 (L2). Dimensions: 1.7, 2.2, 10.2, 2.54.</p>	<p>Diagram showing land pattern for SDIP6 (L2). Dimensions: 1.27, 0.8, 2.2, 10.2.</p>
S016	DIP8 (L3)	SDIP8 (L)
<p>Diagram showing land pattern for S016. Dimensions: 1.27, 0.96, 1.65, 9.85.</p>	<p>Diagram showing land pattern for DIP8 (L3). Dimensions: 2.54, 1.7, 2.0, 9.0.</p>	<p>Diagram showing land pattern for SDIP8 (L). Dimensions: 1.27, 0.8, 2.2, 9.2.</p>
DIP8 (L4)	DIP8 (L2)	SDIP8 (L2)
<p>Diagram showing land pattern for DIP8 (L4). Dimensions: 2.54, 1.7, 2.0, 9.0.</p>	<p>Diagram showing land pattern for DIP8 (L2). Dimensions: 2.54, 1.7, 2.2, 10.2.</p>	<p>Diagram showing land pattern for SDIP8 (L2). Dimensions: 1.27, 0.8, 2.2, 10.2.</p>

Unit : mm

S05	SSOP4	LSS05
<p>1.27 0.8 1.45 6.25 2.54</p>	<p>0.8 1.45 6.25 1.27</p>	<p>0.65 0.35 1.3 9.5 1.3 0.4</p>
S08	SSOP16	LSSOP4
<p>1.27 0.8 1.45 5.25</p>	<p>1.27 0.8 1.45 6.25</p>	<p>0.4 1.3 9.5 1.3</p>
SOP	SSOP12	
<p>0.8 1.45 6.25 2.54</p>	<p>0.80 0.5 1.45 6.25</p>	
LSOP	Flat lead	
<p>0.8 1.3 9.5 2.54</p>	<p>0.8 0.6 1.27 0.35 4.14 1.3 5.7 24-R0.1</p>	

TAPING & REEL SPECIFICATIONS



Direction of Product Inserted in Tape

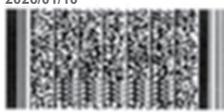
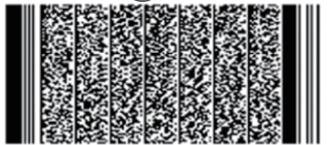
LS05	S05	S08	S016
LSDIP	SDIP6 (L,L2)	SDIP8 (L,L2)	DIP8 (L2,L3,L4)
DIP (L,L2)	SOP	LSOP	Flat lead
SSOP4	SSOP16	SSOP12	LSS05 / LSSOP4

Reel Dimensions					
Symbol	Unit	Tape Width (W)			
		12 mm	16 mm	16 mm	24 mm
A	mm	Ø330±2.0	Ø330±2.0	Ø330±2.0	Ø330±2.0
W1	mm	13.4±1.0	17.4±1.0	17.4±1.0	25.4±1.0
W2	mm	17.4±1.0	21.4±1.0	21.4±1.0	29.4±1.0
B	mm	Ø100±1.0	Ø100±1.0	Ø80±1.0	Ø100±1.0
C	mm	Ø13.0±0.2	Ø13.0±0.2	Ø13.0±0.2	Ø13.0±0.2
D	mm	Ø21.0±0.8	Ø21.0±0.8	Ø21.0±0.8	Ø21.0±0.8
E	mm	2.0±0.5	2.0±0.5	2.0±0.5	2.0±0.5
Package (IC output coupler)	S05	DIP8 (L3)		DIP8 (L2)	
	S08	DIP8 (L4)		SDIP6 (L2)	
		SDIP6 (L)		SDIP8 (L2)	
		SDIP8 (L)		LSDIP8	
		LSO5		SO16	
	LSSO5				
Package (Tr. output coupler)	SOP	DIP4 (L)		DIP4 (L2)	
	Flat leads	LSOP			
		LSSOP4			
	SSOP12	SSOP4		SSOP16	

Tape Dimensions (IC Output Coupler)														
Symbol	Unit	S05	S08	DIP8 (L3)	DIP8 (L4)	SDIP6 (L)	SDIP8 (L)	LSO5	LSSO5	DIP8 (L2)	SDIP6 (L2)	SDIP8 (L2)	LSDIP8	SO16
A0	mm	3.9±0.1	6.4±0.1	10.3±0.1	9.95±0.1	5.08±0.1	6.35±0.1	4.3±0.1	2.85±0.1	10.4±0.1	5.08±0.1	6.35±0.1	7.2±0.1	10.9±0.1
B0	mm	7.4±0.1	5.56±0.1	10.4±0.1	10.55±0.1	10.2±0.1	10.2±0.1	10.7±0.1	10.7±0.1	12.5±0.1	12.0±0.1	12.0±0.1	17.2±0.1	10.8±0.1
K0	mm	3.0±0.1	3.6±0.1	4.75±0.1	4.2±0.1	4.05±0.1	4.05±0.1	2.3±0.1	2.1±0.1	4.1±0.1	4.05±0.1	4.05±0.1	4.05±0.1	3.8±0.1
P1	mm	8.0±0.1	8.0±0.1	12.0±0.1	12.0±0.1	8.0±0.1	8.0±0.1	8.0±0.1	4.0±0.1	12.0±0.1	8.0±0.1	8.0±0.1	12.0±0.1	16.0±0.1
D1	mm	Ø1.55±0.1	Ø1.7±0.1	Ø1.55±0.1	Ø1.55±0.1	Ø1.55±0.1	Ø1.55±0.1	Ø1.55±0.1	Ø1.55±0.1	Ø2.05±0.05	Ø2.05±0.1	Ø2.05±0.1	Ø2.0±0.2	Ø1.55±0.1
J	mm	Ø1.5+0.1/-0												
H	mm	4.0±0.1	4.0±0.1	4.0±0.1	4.0±0.1	4.0±0.1	4.0±0.1	4.0±0.1	4.0±0.1	4.0±0.1	4.0±0.1	4.0±0.1	4.0±0.1	4.0±0.1
E	mm	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1
G	mm	2.0±0.05	2.0±0.05	2.0±0.1	2.0±0.1	2.0±0.1	2.0±0.1	2.0±0.1	2.0±0.1	2.0±0.1	2.0±0.1	2.0±0.1	2.0±0.1	2.0±0.1
F	mm	5.5±0.1	5.5±0.1	7.5±0.1	7.5±0.1	7.5±0.1	7.5±0.1	7.5±0.1	7.5±0.1	11.5±0.1	11.5±0.1	11.5±0.1	11.5±0.1	11.5±0.1
W	mm	12.0±0.2	12.0±0.2	16.0±0.3	16.0±0.3	16.0±0.3	16.0±0.3	16.0±0.3	16.0±0.3	24.0±0.3	24.0±0.3	24.0±0.3	24.0±0.3	24.0±0.3
t	mm	0.3±0.05	0.3	0.35	0.3	0.35	0.35	0.3	0.3	0.3±0.05	0.35	0.35	0.35	0.4
x	pcs	2500	1500	1000	1000	2000	2000	3000	3500	1000	2000	2000	1000	850

Tape Dimensions (Tr. Output Coupler)										
Symbol	Unit	SOP	Flat Leads	SSOP12	DIP4 (L)	LSOP	LSSOP4	SSOP4	SSOP16	DIP4 (L2)
A0	mm	4.4±0.1	2.9±0.1	6.0±0.1	5.3±0.1	4.3±0.1	2.85±0.1	2.85±0.1	8.3±0.1	5.3±0.1
B0	mm	7.4±0.1	5.3±0.1	7.4±0.1	10.3±0.1	10.7±0.1	10.7±0.1	7.55±0.1	10.7±0.1	12.5±0.1
K0	mm	2.4±0.1	2.4±0.1	2.85±0.1	4.0±0.1	2.3±0.1	2.1±0.1	2.3±0.1	2.3±0.1	4.05±0.1
P1	mm	8.0±0.1	4.0±0.1	8.0±0.1	8.0±0.1	8.0±0.1	4.0±0.1	4.0±0.1	12.0±0.1	8.0±0.1
D1	mm	Ø1.55±0.1	Ø1.55±0.05	Ø1.55±0.1	Ø1.55±0.1	Ø1.55±0.1	Ø1.55±0.1	Ø1.55±0.1	Ø1.55±0.1	Ø2.05±0.1
J	mm	Ø1.5+0.1/-0								
H	mm	4.0±0.1	4.0±0.1	4.0±0.1	4.0±0.1	4.0±0.1	4.0±0.1	4.0±0.1	4.0±0.1	4.0±0.1
E	mm	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1
G	mm	2.0±0.05	2.0±0.05	2.0±0.05	2.0±0.1	2.0±0.1	2.0±0.1	2.0±0.1	2.0±0.1	2.0±0.1
F	mm	5.5±0.05	5.5±0.05	5.5±0.1	7.5±0.1	7.5±0.1	7.5±0.1	7.5±0.1	7.5±0.1	11.5±0.1
W	mm	12.0±0.2	12.0±0.2	12.0±0.2	16.0±0.3	16.0±0.3	16.0±0.3	16.0±0.3	16.0±0.3	24.0±0.3
t	mm	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.25	0.4
x	pcs	3500	3500	2500	2000	3000	3500	3500	2500	1000

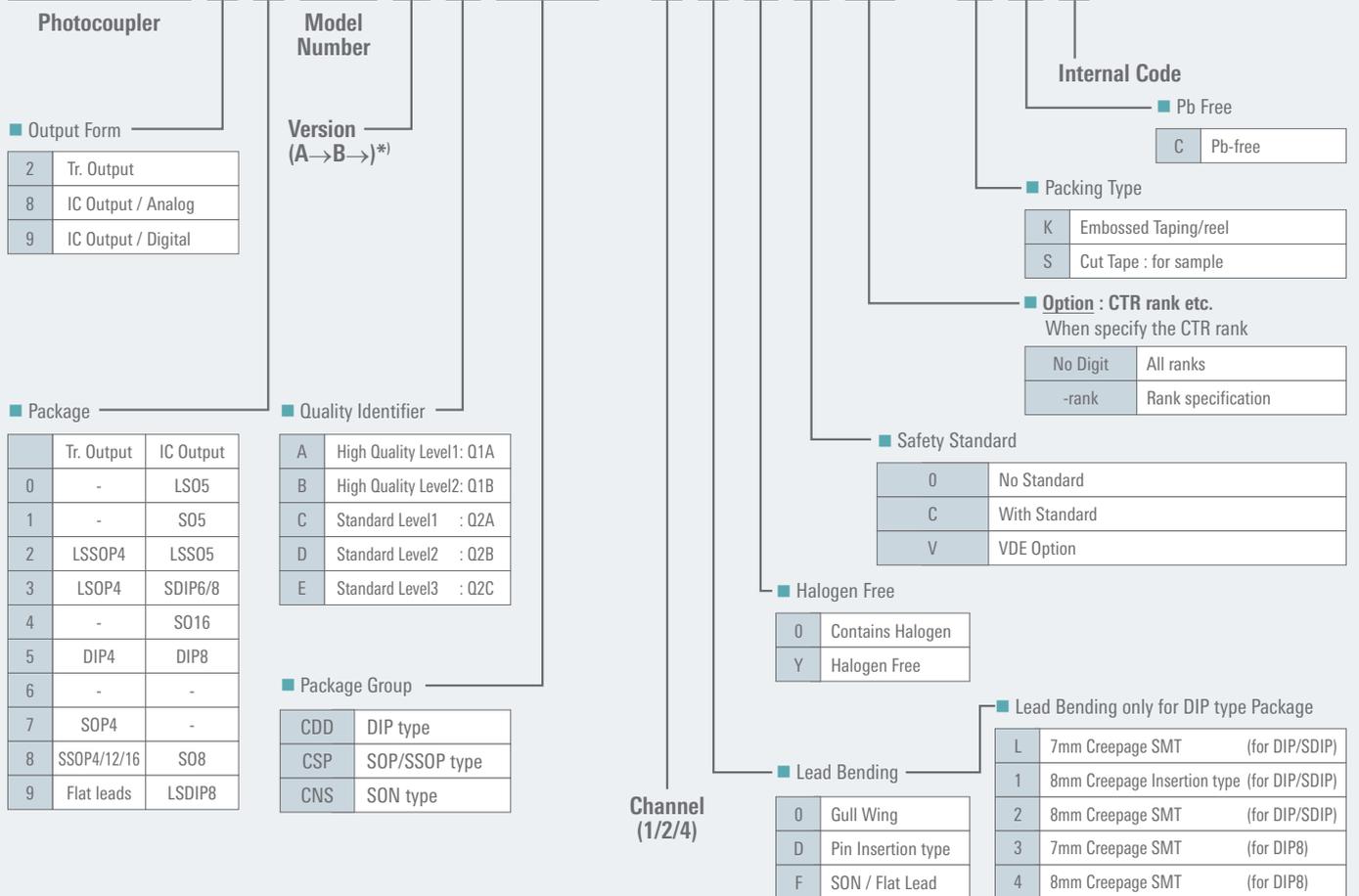
LABEL PRINT EXAMPLES

Inner Box	Reel
 <p style="text-align: center;">Label</p>	 <p style="text-align: center;">Label</p>
Label on Inner Box	Label on Taping Reel
<p style="text-align: center;">Marking of Safety Standards</p>  <p style="text-align: center;">Pb-Free T. RENESAS</p> <p>D/N <u>PS2561DL2-1Y-V-F3-A-W</u> SPN <u>PS2561DL2-1Y-V-F3-A-W</u> 001RD45WY2 <small>MC:JPTWTW ASSEMBLED IN TAIWAN FROM WAFER OF JAPAN</small></p> <p style="text-align: center;">CTR rank</p> <hr/> <p>PN2 LN PN <u>PS2561DL2-1-V-F3</u> 2026/01/10 PID 124446105V-001 QTY 2000 PCD 0000184865 T/C 2602 123WB4567 S.LOT YL2209K801</p> 	<p style="text-align: center;">Marking of Safety Standards</p>  <p style="text-align: right;">RENESAS MSL:1</p> <p>D/N <u>PS2561DL2-1Y-V-F3-A-W</u> 2026/01/10 SPN <u>PS2561DL2-1Y-V-F3-A-W</u> 001RD45WY2 CPN2 LN CTR rank CPN <u>PS2561DL2-1-V-F3</u> PID 124446105V-001 <small>MC:JPTWTW ASSEMBLED IN TAIWAN FROM WAFERS OF JAPAN</small> QTY 2000 MG LOT 2602 123WB4567 S.LOT 223510100A</p> 

PART NUMBER GUIDE

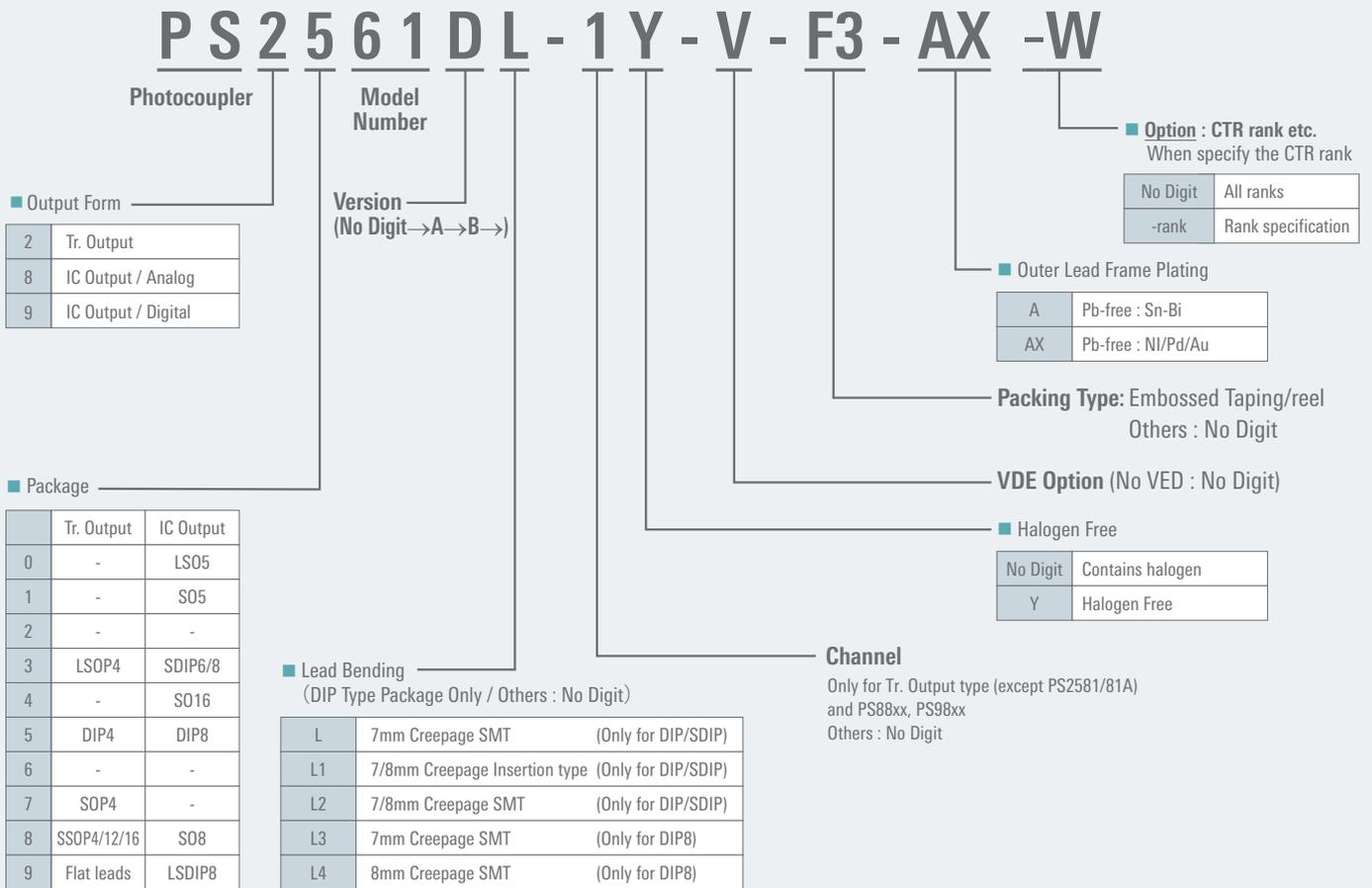
Order number guide = P/N starting with "RV1S" =

RV1S2211ACCSP-10YV-L#KCO



*) P/N with "Q" at "Version" indicates products for automotive use. In this case, there are digits that do not follow the definition on this page.

Order number guide = P/N starting with "PS" =



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