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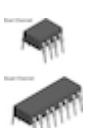


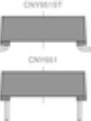

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OPTOCOUPLEDERS / ISOLATORS - PHOTOTRANSISTOR OUTPUT


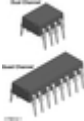



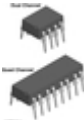
Part Number	Product Image	Package	V _{CEO} (V)	CTR Min. (1) (%)	CTR Max. (1) (%)	Forward Current I _F (mA)	t _{on} /t _{off} (μs)	Operating Temperature (°C)	Isolation Voltage V _{ISO} (V _{RMS})	Safety Standard(s)
VOS618A		SSOP-4	80	50	600	1	5, 8	-55 to +110	3750	UL, cUL, VDE, FIMKO, CQC
VOS617A		SSOP-4	80	50	600	5	6, 4	-55 to +110	3750	UL, cUL, VDE, FIMKO, CQC
VOS615A		SSOP-4	80	40	600	10	5, 5	- 55 to + 110	3750	UL, cUL, VDE, FIMKO, CQC
VOMA618A		SOP-4	80	50	600	1	6.8, 2.3	-40 to +110	3750	UL, cUL, VDE, CQC
VOMA617A		SOP-4	80	50	600	5	4.9, 3.3	-40 to +110	3750	UL, cUL, VDE, CQC
VOM618A		SOP-4	80	40	600	1	7, 6	- 55 to + 110	3750	UL, cUL, VDE, FIMKO, CQC
VOM617A		SOP-4	80	50	600	5	6, 4	-55 to +110	3750	UL, cUL, VDE, CQC, FIMKO
VOL618A		4 pin LSOP	80	50	600	1	6, 5.5	-55 to +110	5000	UL, cUL, VDE, BSI, FIMKO, CQC
VOL617A		4 pin LSOP	80	40	600	5	6, 5.5	-55 to +110	5000	UL, cUL, VDE, BSI, FIMKO, CQC
VOD205T, VOD206T, VOD207T, VOD211T, VOD213T, VOD217T		SOIC-8	70	13	200	10	5, 4	-40 to +100	4000	UL, cUL, VDE





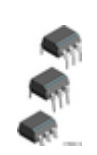
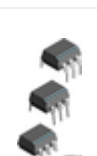

Part Number	Product Image	Package	V _{CEO} (V)	CTR Min. (1) (%)	CTR Max. (1) (%)	Forward Current I _F (mA)	t _{on} /t _{off} (μs)	Operating Temperature (°C)	Isolation Voltage V _{ISO} (V _{RMS})	Safety Standard(s)
VO618A		DIP-4	80	50	600	1	3, 2.3	-55 to +110	5300	UL, cUL, VDE, BSI, FIMKO, CQC
		DIP-4, 400 mil								
		SMD-4								
VO617A		DIP-4	80	40	600	5	3, 2.3	-55 to +110	4470 5300	UL, cUL, VDE, BSI, FIMKO, CQC
		DIP-4, 400 mil								
		SMD-4								
VO615A		DIP-4	70	13	600	5, 10	6, 5	-55 to +110	5000	BSI, VDE, FIMKO, UL, cUL, CQC
		DIP-4, 400 mil								
		SMD-4								
VO610A		DIP-4	70	13	320	10	6, 5	- 55 to + 110	5000	BSI, VDE, FIMKO, UL, cUL, CQC
		DIP-4, 400 mil								
		SMD-4								
VO205AT, VO206AT, VO207AT, VO208AT		SOIC-8	70	40	320	10	3, 3	- 40 to + 100	4000	UL, cUL, VDE
TCMT4100, TCMT4106		SSOP-16	70	50	600	5	9.5, 8.5	-40 to +100	3750	UL, cUL, VDE, FIMKO, CQC
SFH6916		SSOP-16	70	50	300	5	9.5, 8.5	-55 to +100	3750	UL, cUL, VDE, BSI, CQC, CQC, C
SFH640		DIP-6	300	22	200	10	4, 5	-55 to +115	5000	UL, cUL, VDE, CQC, CQC
		SMD-6								

Part Number	Product Image	Package	V _{CEO} (V)	CTR Min. (1) (%)	CTR Max. (1) (%)	Forward Current I _F (mA)	t _{on} /t _{off} (μs)	Operating Temperature (°C)	Isolation Voltage V _{ISO} (V _{RMS})	Safety Standard(s)
SFH618A, SFH6186		DIP-4	55	32	500	1	6, 5.5	-55 to +100	4470 5300	UL, cUL, CSA, VDE, BSI, FIMKO
		DIP-4, 400 mil								
		SMD-4								
SFH615A		DIP-4	70	13	320	10	3, 2.3	-55 to +100	4470 5300	UL, cUL, VDE, BSI, FIMKO, CQC
		DIP-4, 400 mil								
		SMD-4								
SFH601		DIP-6	100	40	320	10	3, 3	-55 to +100	5000	UL, cUL, VDE, CQC
		DIP-6, 400 mil								
		SMD-6								
ILD621, ILD621GB, ILQ621, ILQ621GB		DIP-16	70	30	600	60	3.0, 2.3	-55 to +100	4420	UL, cUL, VDE, BSI, FIMKO
		DIP-8								
		SMD-16								
		SMD-8								
H11D1, H11D2, H11D3		DIP-6	300	20			4, 5	-55 to +100	5000	UL, cUL, VDE
		SMD-6								
CNY65Exi		DIP-4	32	50	300	75	5, 3	-55 to +85	8200	PTB
CNY651 Series		DIP-4 HV	32	50	300	5	5, 3	-40 to +110	13.9	VDE, UL
		SMD-4 HV								
CNY64AYST, CNY64ABST, CNY64AGRST, CNY65AYST, CNY65ABST, CNY65AGRST		SMD-4 HV	32	50	300	5	5, 3	-55 to +85	8200	UL, VDE








Part Number	Product Image	Package	V _{CEO} (V)	CTR Min. (1) (%)	CTR Max. (1) (%)	Forward Current I _F (mA)	t _{on} /t _{off} (μs)	Operating Temperature (°C)	Isolation Voltage V _{ISO} (V _{RMS})	Safety Standard(s)
CNY64, CNY65, CNY66		DIP-4 HV	32	50	300	75	5, 3	- 55 to + 85	8200	UL, VDE
VO617C		DIP-4	80	40	320	5	6, 4	-55 to +110	5300	UL, cUL, VDE, FIMKO, CQC
		DIP-4, 400 mil								
		SMD-4								
VO615C		DIP-4	80	40	320	10	6, 4	-55 to +110	5300	UL, cUL, VDE, FIMKO, CQC
		DIP-4, 400 mil								
		SMD-4								
TCLT111. Series		SOP-6L5	70	13	600	5, 10	6, 5	-55 to +110	5000	UL, cUL, VDE, FIMKO, BSI, CQC
TCLT101. Series		LSOP-4	70	22	600	5, 10	6, 5	-55 to +110	5000	UL, cUL, VDE, FIMKO
TCLT100. Series		SOP-4L	70	22	600	5, 10	6, 5	-55 to +100	5000	UL, CSA, BSI, VDE, FIMKO, CQC
TCET1201, TCET1202, TCET1203, TCET1204		DIP-4	70	40	600	5, 10	6, 5	-40 to +100	5000	UL, cUL, VDE, BSI, CQC, CQC
TCET111., TCET111.G		DIP-4	70	22	600	5, 10	6, 5	-40 to +110	5000	UL, cUL, VDE, BSI
TCET1100, TCET1100G		DIP-4	70	13	600	5, 10	6, 5	-40 to +100	5000	UL, cUL, VDE, BSI, CQC, CQC
SFH690AB, SFH690A, SFH690B, SFH690C, SFH690D		SOP-4	70	50	400	5	5, 3	- 55 to + 100	3750	UL, cUL, BSI, VDE, CQC


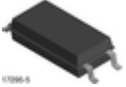



Part Number	Product Image	Package	V _{CEO} (V)	CTR Min. (1) (%)	CTR Max. (1) (%)	Forward Current I _F (mA)	t _{on} /t _{off} (μs)	Operating Temperature (°C)	Isolation Voltage V _{ISO} (V _{RMS})	Safety Standard(s)
SFH617A		DIP-4	70	13	320	10	3, 2.3	- 55 to + 110	4470 5300	UL, cUL, VDE, BSI, FIMKO, CQC
		DIP-4, 400 mil								
		SMD-4								
SFH615AA, SFH615AGB, SFH615AGR, SFH615AY		DIP-4	70	50	600	5	2, 25	-55 to +100	5300	UL, cUL, VDE, BSI
		DIP-4, 400 mil								
		SMD-4								
SFH615A-3X018T		SMD-4	70	34	200	10	3, 2.3	- 55 to +100	5300	UL, VDE, cUL, BSI, FIMKO
SFH6156		SMD-4	70	13	320	10	3, 2.3	-55 to +100	4420	UL, cUL, VDE, BSI, CQC, FIMKO
SFH610A, SFH6106		DIP-4	70	13	500	10	3, 2.3	-55 to +100	4420 5300	UL, VDE, BSI, CSA
		SMD-4								
SFH1690AT, SFH1690BT, SFH1690CT, SFH1690ABT		SOP-4	70	50	300	5	5, 3	- 55 to + 110	3750	UL, cUL, VDE, BSI
SFH1617A		DIP-4	70	13	320	10	3.0, 2.3	-55 to +110	5000	UL, cUL, VDE, BSI, FIMKO, CQC
		DIP-4, 400 mil								
		SMD-4								
MOC8101, MOC8102, MOC8103, MOC8104		DIP-6	30	50	256	10	3.0, 2.3	-55 to +100	4420	UL, cUL, VDE, BSI, CQC, CQC, C
		DIP-6, 400 mil								
		SMD-6								

Part Number	Product Image	Package	V _{CEO} (V)	CTR Min. (1) (%)	CTR Max. (1) (%)	Forward Current I _F (mA)	t _{on} /t _{off} (μs)	Operating Temperature (°C)	Isolation Voltage V _{ISO} (V _{RMS})	Safety Standard(s)
ILD74, ILQ74		DIP-16	20	12.5				-55 to +100	4420	UL, VDE, CQC, CSA, FIMKO, FIMK
		DIP-8								
		SMD-16								
		SMD-8								
ILD615, ILQ615		DIP-16	70	13	320	10	3, 2.3	-55 to +100	4420	UL, cUL, VDE, CQC, CSA, FIMKO
		DIP-16, 400 mil								
		DIP-8								
		DIP-8, 400 mil								
		SMD-16								
		SMD-8								
ILD217T		SOIC-8	70	100				-55 to +100	4000	UL, cUL
ILD205T, ILD206T, ILD207T, ILD211T, ILD213T		SOIC-8	70	13	200	10	6, 5	-55 to +100	4000	UL, cUL
ILD1206T, ILD1207T		SOIC-8	70	63	200	10	-, -	-55 to +110	3333	UL, VDE
ILD1, ILD2, ILD5, ILQ1, ILQ2		DIP-16	50	20	500	10		-40 to +100	4420	UL, cUL, CSA, BSI, VDE, FIMKO
		DIP-16, 400 mil								
		DIP-8								
		DIP-8, 400 mil								
		SMD-16								
		SMD-8								


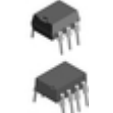

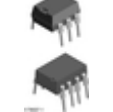




Part Number	Product Image	Package	V _{CEO} (V)	CTR Min. (1) (%)	CTR Max. (1) (%)	Forward Current I _F (mA)	t _{on} /t _{off} (μs)	Operating Temperature (°C)	Isolation Voltage V _{ISO} (V _{RMS})	Safety Standard(s)
IL211AT, IL212AT, IL213AT		SOIC-8	30	20				-55 to +100	4000	UL, cUL, VDE, VDE
IL2		SMD-6	70	100	500	10		-40 to +100	4420	UL, CSA, CQC, CQC, FIMKO
IL1206AT, IL1207AT, IL1208AT		SOIC-8	70	22	320	10	3.0, 3.0	-55 to +110	4000	UL, cUL, VDE, CSA, FIMKO
H11A1		DIP-6	70	50			3, 3	-55 to +100	4420	UL, cUL, VDE, BSI, CSA, CQC, F
		SMD-6								
CNY17F		DIP-6	70	13	320	10	3, 2.3	-55 to +110	5000	UL, cUL, VDE, BSI, FIMKO, CQC
		DIP-6, 400 mil								
		SMD-6								
CNY17		DIP-6	70	13	320	10	3, 2.3	-55 to +110	5000	UL, cUL, VDE, BSI, FIMKO, CQC
		DIP-6, 400 mil								
		SMD-6								
4N25-X, 4N26-X, 4N27-X, 4N28-X		DIP-6	70	10				- 55 to + 100	5000	UL, cUL, VDE, BSI, FIMKO, CQC
		DIP-6, 400 mil								
		SMD-6								








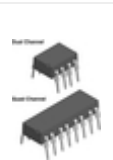


OPTOCOUPLEDERS / ISOLATORS - PHOTODARLINGTON OUTPUT

Part Number	Product Image	Package	V _{CEO} (V)	CTR min ¹ (%)	Forward Current I _F max. (mA)	Operating Temperature max. (°C)	Isolation Voltage V _{ISO} (V _{RMS})	Safety Standard(s)
4N32, 4N33		DIP-6	30	500	60	-55 to +100	5300	UL, VDE, BSI, FIMKO
IL221AT, IL222AT, IL223AT		SOIC-8	30	100	60	-55 to +100	4000	UL, cUL, VDE
IL30, ILD55, ILQ30, ILQ31, ILQ55		DIP-16	30 , 55	100	60	-55 to +100	4420	UL, cUL, VDE
		DIP-6						
		DIP-8						
		SMD-16						
		SMD-8						
ILD223T		SOIC-8	30	500	60	-55 to +100	4000	UL, cUL, VDE
ILQ32		DIP-16	30	500	60	- 55 to + 100	5300	UL, cUL, VDE, BSI
		SMD-16						
K815P, K825P, K845P		DIP-16	35	600	60	- 40 to + 100	5	UL, CSA,
		DIP-4 (CQC)						
		DIP-8						
SFH619A		DIP-4	300	1000	50	-55 to +100	5000	UL, cUL,
		SMD-4						



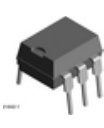





Part Number	Product Image	Package	V _{CEO} (V)	CTR min ¹ (%)	Forward Current I _F max. (mA)	Operating Temperature max. (°C)	Isolation Voltage V _{ISO} (V _{RMS})	Safety Standard(s)
TCED2100, TCED4100		DIP-16 DIP-8	35	600	60	-55 to +125	5000	UL, CSA, VDE, BSI, FIMKO
TCLD1000		SOP-4L	35	600	60	-55 to +100	5000	UL, CSA, BSI, VDE
TCMD1000, TCMD4000		SOP-16 SOP-4	35	600	60	- 40 to + 100	3750	UL, CSA, VDE, FIMKO, BSI
VO221AT, VO222AT, VO223AT		SOIC-8	30	100	60	- 40 to + 100	4000	UL, cUL, VDE
VOD223T		SOIC-8	30	500	30	-40 to +100	4000	UL, cUL, VDE










OPTOCOUPLEDERS / ISOLATORS - OPTOCOUPLER WITH AC INPUT







Part Number	Product Image	Package	V _{CEO} (V)	CTR min. ¹ (%)	CTR max. ¹ (%)	Forward Current I _F max. (mA)	Power Dissipation (mW)	Operating Temperature max. (°C)	Isolation Voltage V _{ISO} (V _{RMS})	Safety Standard(s)
H11AA1		DIP-6	30	20		± 60	200	- 55 to + 100	5300	UL, CSA, BSI, VDE, FIMKO
		SMD-6								
IL250, IL251, IL252, ILD252		DIP-#	30	20		60	200150	-55 to +100	4420	UL, cUL, CSA, BSI, VDE, CQC
		SMD-#								
IL256AT		SOIC-8	30	0.5	2	60		-55 to +100	4000	UL, cUL, VDE
IL755, ILD755		DIP-#	60	750		60	200	-55 to +100	4420	UL, VDE, CSA, CQC, BSI
		SMD-#								
ILD256T		SOIC-8	70	20		30		-55 to +100	4000	UL, VDE
K814P, K824P, K844P		DIP-16	70	20	300	60		-40 to +100	5000	UL, cUL
		DIP-4								
		DIP-8								
SFH620AA, SFH620AGB		DIP-4		50	600	± 60	150	-55 to +100	5300	UL, CSA, BSI,
SFH628A, SFH6286		DIP-4	55	32	500	± 50	150	-55 to +100	5300	UL, VDE, BSI
		DIP-4 400 mil								
		SFH6286 option								






Part Number	Product Image	Package	V _{CEO} (V)	CTR min. ¹ (%)	CTR max. ¹ (%)	Forward Current I _F max. (mA)	Power Dissipation (mW)	Operating Temperature max. (°C)	Isolation Voltage V _{ISO} (V _{RMS})	Safety Standard(s)
		SMD-4								
SFH691AT		SOP-4	70	50	300	± 50	150	- 55 to + 100	3750	UL, cUL, FIMKO, VDE,
TCET4600		DIP-16	70	20	300	± 60	150	-55 to +100	4420	UL, VDE, FIMKO
TCLT1600		SOP-4L miniflat	70	80	300	± 60	150	-55 to +100	5000	UL, CSA, VDE, BSI
TCMT1600, TCMT4600, TCMT4606		SOP-16	70	80	300	± 60	150	-40 to +100	3750	UL, VDE, FIMKO, BSI, CQC
		SOP-4								
VOL628A		4 pin LSOP mini-flat	80	50	600	± 60	150	-55 to +110	5000	UL, cUL, VDE, BSI, FIMKO, CQC
VOS627A		SSOP-4	80	50	600	50		-55 to +110	3750	UL, cUL, VDE, FIMKO, CQC
VOS628A		SSOP-4	80	50	600	50		-55 to +110	3750	UL, cUL, VDE, FIMKO, CQC
ILD620, ILD620GB, ILQ620, ILQ620GB		DIP-16	70	0.5	600	± 60		- 55 to + 100	5300	UL, cUL, VDE, FIMKO, CQC
		DIP-8								
		SMD-16								
		SMD-8								
SFH620A, SFH6206		DIP-4	70	13	320	± 60		-55 to +100	4470 5300	UL, CSA, BSI, VDE, CQC
		DIP-4, 400 mil								
		SMD-4								
TCET1600, TCET1600G		DIP-4	70	20	300	± 60		- 55 to + 100	5300	UL, CSA, VDE, VDE, FIMKO

OPTOCOUPLERS / ISOLATORS - PHOTOTRIAC OUTPUT

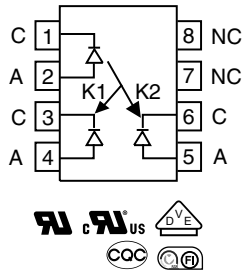
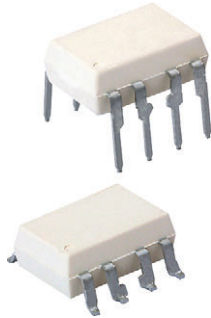
Part Number	Product Image	Zero or Non-Zero Crossing	Package	Trigger Current I_{FT} Max. (mA)	Blocking Voltage V_{DRM} (V)	On-State Current (mA)	Static dV/dt (V/ μ s)	Isolation Voltage V_{ISO} (V $_{RMS}$)	Safety Standard
BRT11, BRT12, BRT13		Non-Zero	DIP-6	1.2 to 3	800	300	10000	4420	UL, VDE
			DIP-6, 400 mil						
			SMD-6						
BRT21, BRT22, BRT23		Zero	DIP-6	1.2 to 2	800	300	10000	4420	UL, cUL, VDE
			DIP-6, 400 mil						
			SMD-6						
IL410, IL4108		Zero	DIP-6	2 to 6	800	300	10000	5300	UL, CSA, VDE
			DIP-6, 400 mil						
			SMD-6						
IL4116, IL4117, IL4118		Zero	DIP-6	1.3	800	300	10000	4420	UL, cUL, VDE, CSA, FIMKO
			DIP-6, 400 mil						
			SMD-6						
IL420, IL4208		Non-Zero	DIP-6	2	800	300	10000	4420	UL, CSA, VDE, FIMKO
			DIP-6, 400 mil						
			SMD-6						
IL4216, IL4217, IL4218		Non-Zero	DIP-6	n/a	800	300	10000	4420	UL, cUL, CSA, VDE, FIMKO
			DIP-6, 400 mil						
			SMD-6						
K3010P, K3012P		Non-Zero	DIP-6	5 to 15	250	100	n/a	4420	UL, cUL, VDE, CQC, CQC, FIMKO
K3020P, K3020PG Series		Non-Zero	DIP-6	5 to 30	400	100	n/a	4420	UL, cUL, VDE, CQC, CQC, FIMKO
			DIP-6, 400 mil						

Part Number	Product Image	Zero or Non-Zero Crossing	Package	Trigger Current I_{FT} Max. (mA)	Blocking Voltage V_{DRM} (V)	On-State Current (mA)	Static dV/dt (V/ μ s)	Isolation Voltage V_{ISO} (V $_{RMS}$)	Safety Standard
VO2223		Non-Zero	DIP-8	10	600	900	n/a	5300	UL, VDE
VO2223A		Non-Zero	DIP-8	10	600	1000	n/a	5300	UL, VDE
VO2223B		Non-Zero	DIP-8	10	600	1000	n/a	4470	UL, VDE
			SMD-8						
VO3021, VO3022, VO3023		Non-Zero	DIP-6	5 to 15	400	100	100	5000	UL, cUL, VDE, CQC, CQC, FIMKO
			DIP-6, 400 mil						
			SMD-6						
VO3052, VO3053		Non-Zero	DIP-6	5 to 10	600	100	1500	4420	UL, VDE
			DIP-6, 400 mil						
			SMD-6						
VO3062, VO3063		Zero	DIP-6	5 to 10	600	100	1500	4420	UL, cUL, VDE
			DIP-6, 400 mil						
			SMD-6						
VO4154, VO4156		Zero	DIP-6, 400 mil	1.6 to 3	600	300	5000	4420	UL, cUL, VDE, FIMKO
			SMD-6						
VO4158		Zero	DIP-6	1.6 to 3	800	300	5000	4420	UL, cUL, VDE, FIMKO
			SMD-6						
VO4256		Non-Zero	DIP-6	1.6 to 3	600	300	5000	4420	UL, cUL, VDE, FIMKO
			SMD-6						

Part Number	Product Image	Zero or Non-Zero Crossing	Package	Trigger Current I_{FT} Max. (mA)	Blocking Voltage V_{DRM} (V)	On-State Current (mA)	Static dV/dt (V/ μ s)	Isolation Voltage V_{ISO} (V $_{RMS}$)	Safety Standard
VO4258		Non-Zero	DIP-6	1.6 to 3	800	300	5000	4420	UL, cUL, VDE, FIMKO
			DIP-6, 400 mil						
			SMD-6						
VOM160		Non-Zero	SOP-4	5 to 10	600	70	500	3750	UL, VDE, CQC
VOM3052, VOM3053		Non-Zero	SOP-4	5 to 10	600	70	1500	3750	UL, cUL, CQC
			SOP-4 180° orientation						
VOT8024AB, VOT8024AD, VOT8024AG		Zero	DIP-4	5	800	100	1000	5300	UL, cUL, VDE, CQC
			DIP-4, 400 mil						
			SMD-4						
			SMD-4, 90° orientation						
			SMD-4, 180° orientation						
			SMD-4, 270° orientation						
VOT8024AM		Zero	SOP-4	5	800	100	1000	3750	UL, cUL, VDE
			SOP-4, 180° orientation						
VOT8025AB, VOT8025AD, VOT8025AG		Zero	DIP-6	5	800	100	1000	5300	UL, cUL, VDE, CQC
			DIP-6, 400 mil						
			SMD-6						
			SMD-6, 90° orientation						
			SMD-6, 180° orientation						

Part Number	Product Image	Zero or Non-Zero Crossing	Package	Trigger Current I_{FT} Max. (mA)	Blocking Voltage V_{DRM} (V)	On-State Current (mA)	Static dV/dt (V/ μ s)	Isolation Voltage V_{ISO} (V $_{RMS}$)	Safety Standard
VOT8026AB, VOT8026AD, VOT8026AG		Zero	DIP-6	5	800	100	1000	5300	UL, cUL, VDE, CQC
			DIP-6, 400 mil						
			SMD-6						
			SMD-6, 180° orientation						
VOT8121AB, VOT8121AD, VOT8121AG		Non-Zero	DIP-4	10	800	100	1000	5300	UL, cUL, VDE, CQC
			DIP-4, 400 mil						
			SMD-4						
			SMD-4, 90° orientation						
			SMD-4, 180° orientation						
			SMD-4, 270° orientation						
VOT8121AM		Non-Zero	SOP-4	10	800	100	1000	3750	UL, cUL, VDE
			SOP-4, 180° orientation						
VOT8123AB, VOT8123AD, VOT8123AG		Non-Zero	DIP-6	10	800	100	1000	5000	UL, cUL, VDE, CQC
			DIP-6, 400 mil						
			SMD-6						
			SMD-6, 180° orientation						
VOT8125AB, VOT8125AD, VOT8125AG		Non-Zero	DIP-6	5	800	100	1000	5000	UL, cUL, VDE, CQC
			DIP-6, 400 mil						
			SMD-6						
			SMD-6, 180° orientation						

Linear Optocoupler, High Gain Stability, Wide Bandwidth



FEATURES

- Couples AC and DC signals
- High gain stability, $\pm 0.005\% / ^\circ\text{C}$ typically
- Low input-output capacitance
- Isolation rated voltage 4420 V_{RMS}
- Internal insulation distance, $> 0.4\text{ mm}$



LINKS TO ADDITIONAL RESOURCES



DESCRIPTION

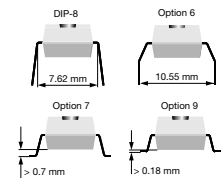
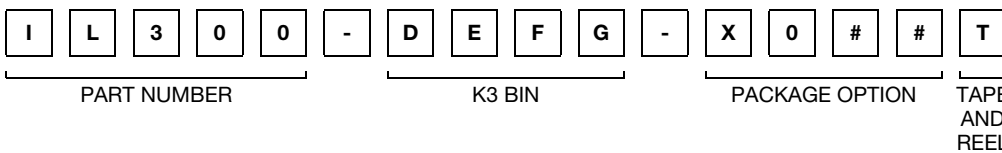
The IL300 linear optocoupler consists of an AlGaAs infrared emitter irradiating an output PIN photodiode and a feedback photodiode. The feedback photodiode captures a percentage of the emitter's flux and generates a control signal (I_{P1}) that can be used to keep the emitter output constant by adjusting the emitter forward current. This compensates for the emitter's non-linear, time, and temperature characteristics. The output PIN photodiode produces an output signal (I_{P2}) that is linearly related to the servo optical flux created by the emitter.

The time and temperature stability of the input-output coupler gain ($K3$) is insured by using matched PIN photodiodes that accurately track the output flux of the emitter.

APPLICATIONS

- Power supply feedback voltage / current
- Medical sensor isolation
- Audio signal interfacing
- Isolated process control transducers
- Digital telephone isolation

ORDERING INFORMATION



AGENCY CERTIFIED / PACKAGE	K3 BIN				
UL, cUL, BSI, FIMKO	0.557 to 1.618	0.765 to 1.181	0.851 to 1.061	0.851 to 0.955	0.945 to 1.061
DIP-8	IL300	IL300-DEFG	IL300-EF	IL300-E	IL300-F
DIP-8, 400 mil, option 6	-	IL300-DEFG-X006	-	IL300-E-X006	-
SMD-8, option 7	IL300-X007T ⁽¹⁾	IL300-DEFG-X007T ⁽¹⁾	IL300-EF-X007T ⁽¹⁾	IL300-E-X007T	IL300-F-X007T ⁽¹⁾
SMD-8, option 9	IL300-X009T	IL300-DEFG-X009T	IL300-EF-X009T	-	IL300-F-X009T ⁽¹⁾
VDE, UL, BSI, FIMKO	0.557 to 1.618	0.765 to 1.181	0.851 to 1.061	0.851 to 0.955	0.945 to 1.061
DIP-8	-	IL300-DEFG-X001	-	-	IL300-F-X001
DIP-8, 400 mil, option 6	IL300-X016	IL300-DEFG-X016	IL300-EF-X016	-	IL300-F-X016
SMD-8, option 7	IL300-X017	IL300-DEFG-X017T ⁽¹⁾	IL300-EF-X017T ⁽¹⁾	-	IL300-F-X017T
SMD-8, option 9	-	-	-	IL300-E-X009T	-

Note

⁽¹⁾ Also available in tubes, do not put "T" on the end



ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
INPUT				
Power dissipation		P_{diss}	100	mW
Forward current		I_F	60	mA
Surge current (pulse width < 10 μs)		I_{PK}	250	mA
Reverse voltage		V_R	5	V
Junction temperature		T_j	125	$^{\circ}\text{C}$
OUTPUT				
Power dissipation		P_{diss}	50	mW
Reverse voltage		V_R	50	V
Junction temperature		T_j	125	$^{\circ}\text{C}$
COUPLER				
Total package dissipation at 25 $^{\circ}\text{C}$		P_{tot}	150	mW
Storage temperature		T_{stg}	-55 to +150	$^{\circ}\text{C}$
Operating temperature		T_{amb}	-55 to +100	$^{\circ}\text{C}$

Note

- Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of this document. Exposure to absolute maximum ratings for extended periods of the time can adversely affect reliability

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
INPUT (LED EMITTER)						
Forward voltage	$I_F = 10\text{ mA}$	V_F	-	1.4	1.5	V
Reverse current	$V_R = 5\text{ V}$	I_R	-	1	-	μA
Junction capacitance	$V_F = 0\text{ V}$, $f = 1\text{ MHz}$	C_j	-	26	-	pF
OUTPUT						
Dark current	$V_{det} = -15\text{ V}$, $I_F = 0\text{ A}$	I_D	-	1	25	nA
Open circuit voltage	$I_F = 10\text{ mA}$	V_D	-	500	-	mV
Short circuit current	$I_F = 10\text{ mA}$	I_{SC}	-	90	-	μA
Junction capacitance	$V_F = 0\text{ V}$, $f = 1\text{ MHz}$	C_j	-	12	-	pF
COUPLER						
Input-output capacitance	$V_F = 0\text{ V}$, $f = 1\text{ MHz}$		-	1	-	pF
K1, servo gain (I_{P1}/I_F)	$I_F = 10\text{ mA}$, $V_{det} = -15\text{ V}$	K1	0.005	0.009	0.015	
Servo photocurrent ⁽¹⁾⁽²⁾	$I_F = 10\text{ mA}$, $V_{det} = -15\text{ V}$	I_{P1}	-	90	-	μA
K2, forward gain (I_{P2}/I_F)	$I_F = 10\text{ mA}$, $V_{det} = -15\text{ V}$	K2	0.005	0.009	0.015	
Forward current	$I_F = 10\text{ mA}$, $V_{det} = -15\text{ V}$	I_{P2}	-	90	-	μA
K3, transfer gain ($K2/K1$) ⁽¹⁾⁽²⁾	$I_F = 10\text{ mA}$, $V_{det} = -15\text{ V}$	K3	0.56	1	1.65	K2/K1
Transfer gain stability	$I_F = 10\text{ mA}$, $V_{det} = -15\text{ V}$, $T_{amb} = 0\text{ }^{\circ}\text{C}$ to $75\text{ }^{\circ}\text{C}$	$\Delta K3/\Delta T_A$	-	± 0.005	± 0.15	$\%/^{\circ}\text{C}$
Transfer gain linearity	$I_F = 2\text{ mA}$ to 10 mA	$\Delta K3$	-	± 0.25	-	%

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
PHOTOCONDUCTIVE OPERATION						
Frequency response	$I_F = 10\text{ mA}$, $MOD = \pm 4\text{ mA}$, $R_L = 50\text{ }\Omega$	BW (-3 db)	-	1.4	-	MHz
Phase response at 200 kHz	$V_{det} = -15\text{ V}$		-	-45	-	$^{\circ}$

Notes

- Minimum and maximum values were tested requirements. Typical values are characteristics of the device and are the result of engineering evaluation. Typical values are for information only and are not part of the testing requirements
- (1) Bin sorting: K3 (transfer gain) is sorted into bins that are $\pm 6\%$, as follows:
 Bin D = 0.765 to 0.859
 Bin E = 0.851 to 0.955
 Bin F = 0.945 to 1.061
 Bin G = 1.051 to 1.181
 K3 = K2/K1. K3 is tested at $I_F = 10\text{ mA}$, $V_{det} = -15\text{ V}$
- (2) Bin categories: All IL300s are sorted into a K3 bin, indicated by an alpha character that is marked on the part. The bins range from "A" through "J".
 The IL300 is shipped in tubes of 50 each. Each tube contains only one category of K3. The category of the parts in the tube is marked on the tube label as well as on each individual part
- (3) Category options: standard IL300 orders will be shipped from the categories that are available at the time of the order. Any of the ten categories may be shipped. For customers requiring a narrower selection of bins, the bins can be grouped together as follows:
 IL300-DEFG: order this part number to receive categories D, E, F, G only
 IL300-EF: order this part number to receive categories E, F only
 IL300-E: order this part number to receive category E only

SWITCHING CHARACTERISTICS						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Rise time	$I_F = 10\text{ mA}$, $MOD = +2\text{ mA}$, $R_L = 10\text{ k}\Omega$	t_r	-	0.8	-	μs
Fall time		t_f	-	0.8	-	μs

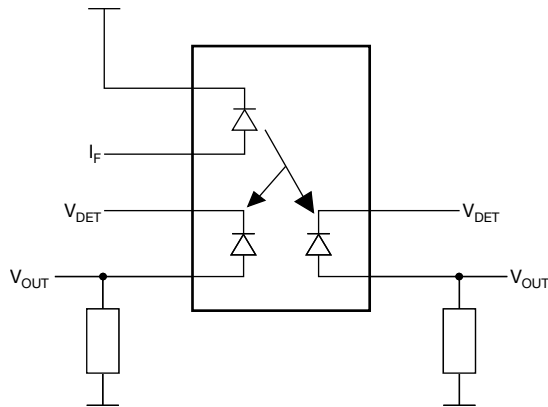


Fig. 1 - Test Circuit

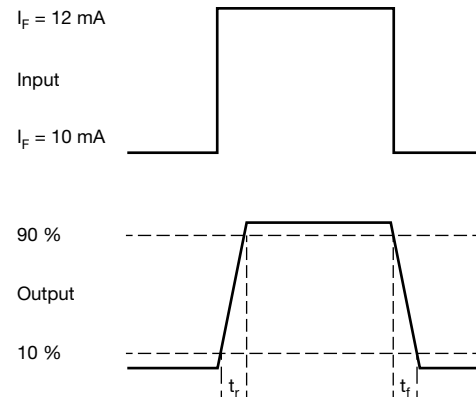


Fig. 2 - Switching Times

COMMON MODE TRANSIENT IMMUNITY						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Common mode capacitance	$V_F = 0\text{ V}$, $f = 1\text{ MHz}$	C_{CM}	-	1	-	μF
Common mode rejection ratio	$f = 60\text{ Hz}$, $R_L = 2.2\text{ k}\Omega$	CMRR	-	100	-	dB

SAFETY AND INSULATION RATINGS				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Climatic classification	According to IEC 68 part 1		55 / 100 / 21	
Comparative tracking index		CTI	175	
Maximum rated withstanding isolation voltage	t = 1 min	V_{ISO}	4420	V_{RMS}
Maximum transient isolation voltage		V_{IOTM}	10 000	V_{peak}
Maximum repetitive peak isolation voltage		V_{IORM}	890	V_{peak}
Isolation resistance	$V_{IO} = 500\text{ V}, T_{amb} = 25\text{ °C}$	R_{IO}	$\geq 10^{12}$	Ω
	$V_{IO} = 500\text{ V}, T_{amb} = 100\text{ °C}$	R_{IO}	$\geq 10^{11}$	Ω
Output safety power		P_{SO}	400	mW
Input safety current		I_{SI}	275	mA
Safety temperature		T_S	175	°C
Creepage distance	DIP-8		≥ 7	mm
Clearance distance			≥ 7	mm
Creepage distance	DIP-8, 400 mil, option 6; SMD-8, option 7; SMD-8, option 9		≥ 8	mm
Clearance distance			≥ 8	mm
Insulation thickness		DTI	≥ 0.4	mm

Note

- As per IEC 60747-5-5, § 7.4.3.8.2, this optocoupler is suitable for “safe electrical insulation” only within the safety ratings. Compliance with the safety ratings shall be ensured by means of protective circuits

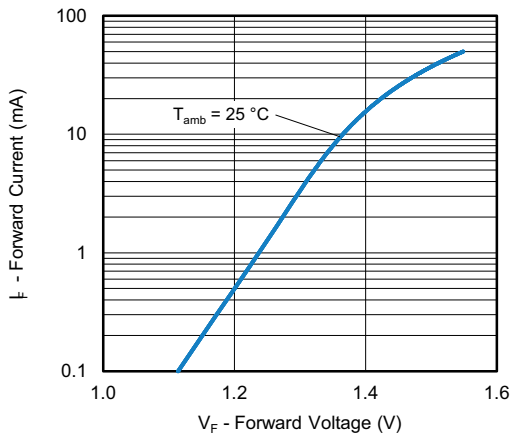
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ °C}$, unless otherwise specified)


Fig. 3 - Forward Voltage vs. Forward Current

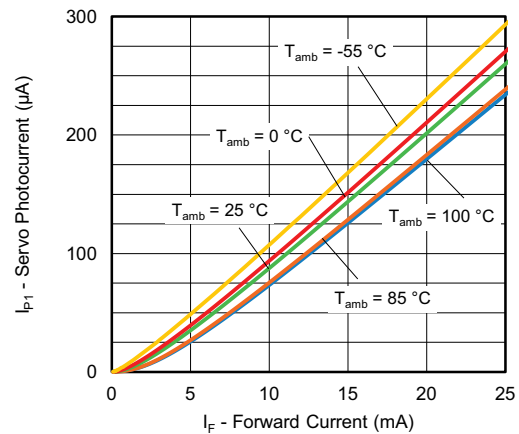


Fig. 4 - Servo Photocurrent vs. Forward Current

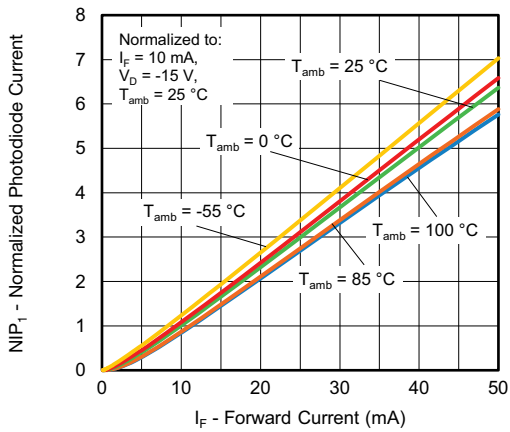


Fig. 5 - Normalized Photodiode Current vs. Forward Current

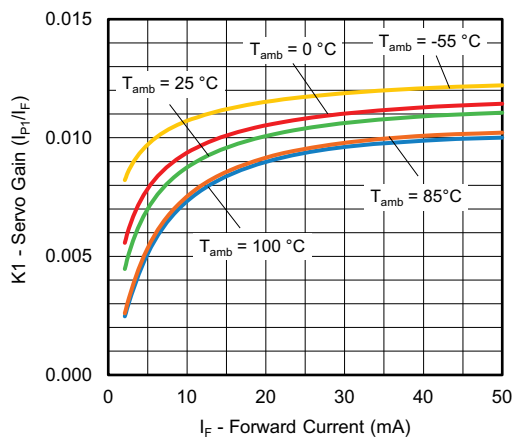


Fig. 6 - Servo Gain vs. Forward Current

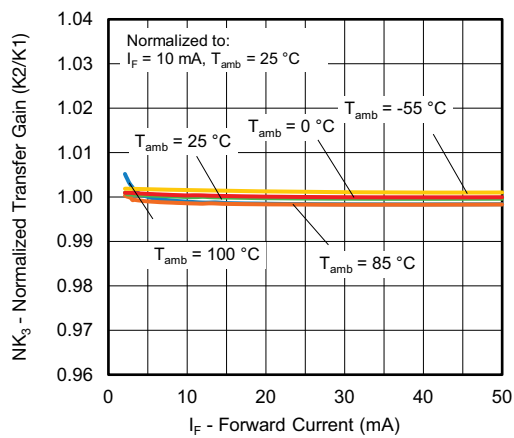
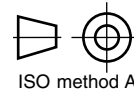
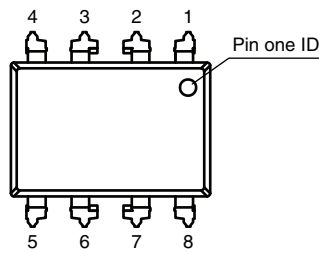
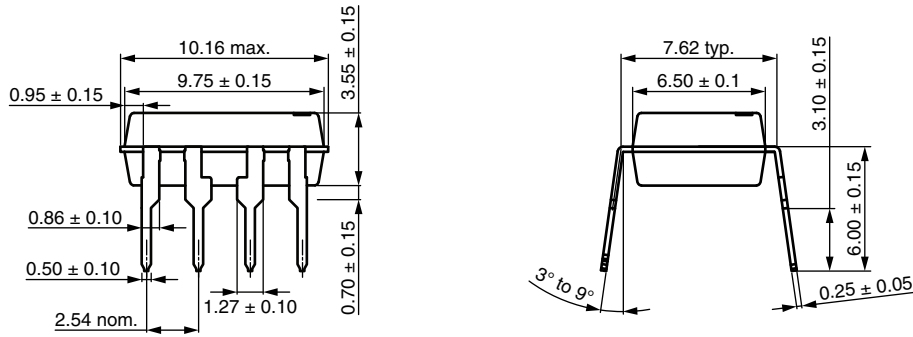


Fig. 7 - Normalized Transfer Gain vs. Forward Current

PACKAGE DIMENSIONS (in millimeters)


hm

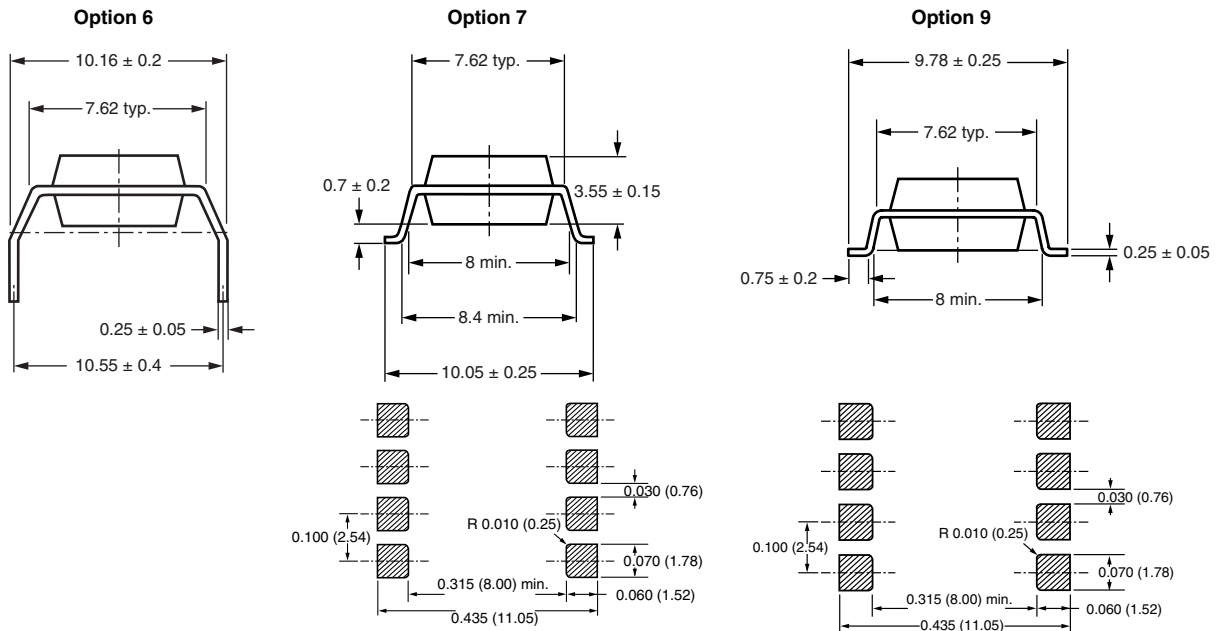
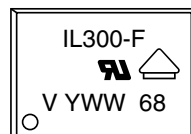
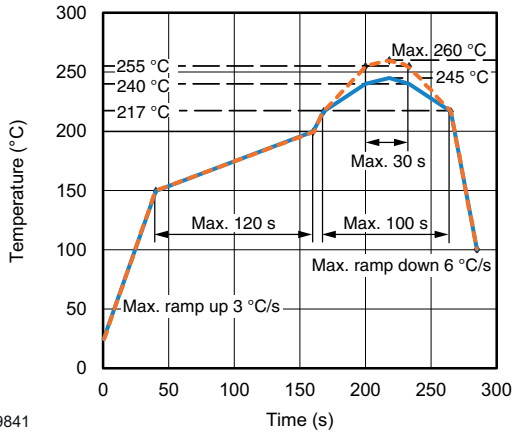

PACKAGE MARKING


Fig. 8 - Example of IL300-F-X001

SOLDER PROFILES


19841

Fig. 9 - Lead (Pb)-free Reflow Solder Profile According to J-STD-020 for SMD Devices

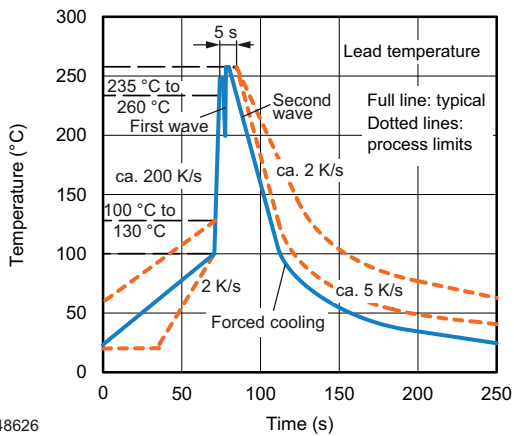
HANDLING AND STORAGE CONDITIONS

ESD level: HBM class 2

Floor life: unlimited

 Conditions: $T_{amb} < 30\text{ °C}$, RH < 85 %


Moisture sensitivity level 1, according to J-STD-020

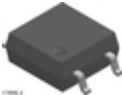






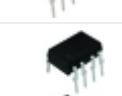












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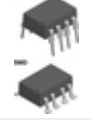
Fig. 10 - Wave Soldering Double Wave Profile According to J-STD-020 for DIP Devices

SOLID-STATE RELAYS









Part Number	Product Image	Package	Output	V _L max. (V)	I _L max. (mA)	I _{Fon} max. (mA)	R _{ON} max. (Ω)	R _{OFF} typ. (GΩ)	t _{on} max. (ms)	t _{off} max. (ms)	V _{iso} max. (V _{RMS})	Safety Standard
VOR2142A8, VOR2142B8		SMD-8, DIP-8	1 Form A	400	140	2	27	5000	0.5	0.2	5300	UL, VDE
VOR2121A8, VOR2121B8		SMD-8, DIP-8	1 Form A	250	200	2	15	5000	0.5	0.2	5300	UL, VDE
VOR1142M4		SOP-4	1 Form A	400	140	2	27		0.5	0.2	3750	UL, VDE
VOR1142B6, VOR1142A6		SMD-6, DIP-6	1 Form A	400	270	2	27		0.5	0.2	5300	UL, VDE
VOR1142B4		SMD-4	1 Form A	400	140	2	27		0.5	0.2	5300	UL, VDE
VOR1121A6, VOR1121B6		SMD-6, DIP-6	1 Form A	250	370	2	15	5000	0.5	0.2	5300	UL, VDE
VOM1271		SOP-4	MOSFET Driver								3750	UL, cUL, FIMKO
VO14642AT, VO14642AABTR		SMD-6, DIP-6	1 Form A	60	2000	2	0.25	n/a	0.8	0.8	5300	UL, cUL, VDE










Part Number	Product Image	Package	Output	V _L max. (V)	I _L max. (mA)	I _{Fon} max. (mA)	R _{ON} max. (Ω)	R _{OFF} typ. (GΩ)	t _{on} max. (ms)	t _{off} max. (ms)	V _{iso} max. (V _{RMS})	Safety Standard
VO1400AEF		SOP-4	1 Form A	60	100	3.2	5	n/a	0.5	0.5	3750	UL, cUL, VDE, FIMKO,
VO1263AAC, VO1263AACTR, VO1263AB		SMD-8, DIP-8	MOSFET Driver								5300	UL, VDE, BSI, CQC, FIMKO
LH1550AAB1, LH1550AAB1TR, LH1550AT1		SMD-6, DIP-6	1 Form A	350	100	2	50	5000	3	3	5300	UL
LH1546AT, LH1546AABTR		SMD-6, DIP-6	1 Form A	350	200	2	35	5000	3	3	5300	UL, cUL, BSI, FIMKO
LH1546AEF, LH1546AEFTR		SOP-4	1 Form A	350	120	2	27	850	3	3	3750	UL, cUL, BSI, FIMKO
LH1546ADF, LH1546ADFTR		SMD-4	1 Form A	350	120	2	35	5000	3	3	5300	UL
LH1540AAB, LH1540AABTR, LH1540AT		SMD-6, DIP-6	1 Form A	350	250	2	27	5000	2	2	5300	UL, VDE
LH1532AAC, LH1532AACTR, LH1532AB		SMD-8, DIP-8	1 Form A	350	120	2	27	5000	2.5	2.5	5300	UL, cUL,
LH1526AB, LH1526AAC, LH1526AACTR		SMD-8, DIP-8	1 Form A	400	125	0.9	36	5000	1	1.5	5300	UL, cUL,

Part Number	Product Image	Package	Output	V _L max. (V)	I _L max. (mA)	I _{Fon} max. (mA)	R _{ON} max. (Ω)	R _{OFF} typ. (GΩ)	t _{on} max. (ms)	t _{off} max. (ms)	V _{iso} max. (V _{RMS})	Safety Standard
LH1525AT, LH1525AAB, LH1525AABTR		SMD-6, DIP-6	1 Form A	400	250	0.9	36	5000	1	1.5	5300	UL, cUL,
LH1522AB, LH1522AAC, LH1522AACTR		SMD-8, DIP-8	1 Form A	200	200	2	15	5000	2	2	5300	UL
LH1520AB, LH1520AAC, LH1520AACTR		SMD-8, DIP-8	1 Form A	350	140	2	27	5000	2	2	5300	UL
LH1518AAB, LH1518AABTR, LH1518AT		SMD-6, DIP-6	1 Form A	250	300	2	20	5000	3	3	5300	UL
LH1512BAC, LH1512BACTR, LH1512BB		SMD-8, DIP-8	1 Form A/B, C	200	200	2	15	5000	3	3	3750	UL, FIMKO
LH1511BAB, LH1511BABTR, LH1511BT		SMD-6, DIP-6	1 Form B	200	300	n/a	15	1.4	3	3	3750	UL,
LH1510AAB, LH1510AABTR, LH1510AT		SMD-6, DIP-6	1 Form A	200	350	2	15	5000	2	2	5300	UL
LH1505AB, LH1505AAC, LH1505AACTR		SMD-8, DIP-8	1 Form A	250	130	2	20	5000	4	4	5300	UL
LH1502BAC, LH1502BACTR, LH1502BB		SMD-8, DIP-8	1 Form A/B, C	350	150	2	25	5000	6	3	3750	UL, FIMKO



Part Number	Product Image	Package	Output	V _L max. (V)	I _L max. (mA)	I _{Fon} max. (mA)	R _{ON} max. (Ω)	R _{OFF} typ. (GΩ)	t _{on} max. (ms)	t _{off} max. (ms)	V _{iso} max. (V _{RMS})	Safety Standard
LH1501BAB, LH1501BABTR, LH1501BT		SMD-6, DIP-6	1 Form B	350	200	n/a	25	1.4	3	3	3750	UL,
LH1500AAB, LH1500AABTR, LH1500AT		SMD-6, DIP-6	1 Form A	350	250	2	27	5000	2	2	5300	UL
LH1262CAC, LH1262CACTR, LH1262CB		SMD-8, DIP-8	MOSFET Driver								5300	UL, VDE, BSI, CQC, FIMKO

OPTOCOUPLERS / ISOLATORS - HIGH SPEED

Part Number	Product Image	Data Rate (MBd)	Package	CTR min. (%)	t _{PLH} typ. (μs)	t _{PHL} typ. (μs)	Pulse Width Distortion PWD (ns)	CMTI typ. (V/μs)	Operating Temperature (°C)	Channel(s)	Isolation Voltage V _{ISO} (V _{RMS})	Safety Standard(s)
6N135, 6N136		1	SMD-8 DIP-8, 400 mil DIP-8	19	0.2	0.2	n/a	1000	-55 to +100	Single	5300	UL, VDE, cUL, CQC
6N137, VO2601, VO2611, VO2630, VO2631, VO4661		10	DIP-8 SMD-8 (option 7) SMD-8 (option 9)	n/a	0.048	0.05	2.9	25000	-40 to +100	Single, dual	5300	UL, cUL, VDE, CQC, CQC
6N137A		10	SMD-8 DIP-8	n/a	0.045	0.032	13	n/a	-40 to +85	Single	5000	UL, cUL, VDE, CQC
6N139		0.1	DIP-8 SMD-8	500	1.5	0.6	n/a	500	-55 to +100	Single	5300	UL, cUL, VDE
SFH6135, SFH6136		1	DIP-8 SMD-8 DIP-8, 400 mil	19	0.2	0.2	n/a	1000	-55 to +100	Single	5300	UL, cUL, VDE, CQC
SFH6315, SFH6316, SFH6343		1	SOIC-8	19	0.3	0.5	n/a	30000	-55 to +100	Single		UL, cUL, VDE, CSA
SFH6318, SFH6319		0.1	SOIC-8	500	3	0.5	n/a	1000	-55 to +100	Single	3333	UL, cUL, VDE, CSA
SFH6325, SFH6326		1	SMD-8 DIP-8	19	0.5	0.2	n/a	1000	-55 to +100	Dual	5300	UL, VDE, CQC

Part Number	Product Image	Data Rate (MBd)	Package	CTR min. (%)	t _{PLH} typ. (μs)	t _{PHL} typ. (μs)	Pulse Width Distortion PWD (ns)	CMTI typ. (V/μs)	Operating Temperature (°C)	Channel(s)	Isolation Voltage V _{ISO} (V _{RMS})	Safety Standard(s)
SFH6345		1	DIP-8	19	0.3	0.3	n/a	30000	-55 to +100	Single	5300	UL, VDE, cUL, CQC
			SMD-8									
			DIP-8, 400 mil									
SFH636		1	DIP-6	19			n/a	10000	-55 to +100	Single	4420	UL, cUL, VDE, CSA, FIMKO
			SMD-6									
SFH6747, SFH6755, SFH6756, SFH6757		10	SOIC-8		48	50		15000	-40 to +100	Single	4000	UL, cUL
SFH6750		10	SMD-8	n/a	0.048	0.05	2.9	10000	-40 to +100	Dual	5300	UL, cUL, VDE, , CQC
VO0600T, VO0601T, VO0611T, VO0630T, VO0631T, VO0661T		10	SOIC-8	n/a	0.048	0.05	2.9	25000	-40 to +100	Single	4000	UL, cUL, VDE
VOH1016AB, VOH1016AD, VOH1016AG		1	DIP-6	n/a	0.25	0.05	n/a	n/a	-40 to +110	Single	5000	UL, cUL, VDE
			SMD-6									
VOM452, VOM453		1	SOP-5	15	0.5	0.2		15000	-55 to +100		3750	UL, cUL, VDE
VOW135, VOW136		1	SMD-8, 400 mil	19	0.6	0.2	n/a	n/a	-40 to +100	Single	5300	UL, cUL, VDE, CQC
			DIP-8, 400 mil									
VOW137, VOW2611		10	SMD-8, 400 mil	n/a	0.049	0.046	3.1	40000	-40 to +100	Single	5300	UL, cUL, VDE, CQC
			DIP-8, 400 mil									

OPTOCOUPLEDERS / ISOLATORS - ISOLATED IPM DRIVERS

Part Number	Product Image	Package	Data Rate (MBd)	CTR min. (%)	t _{PLH} typ. (μs)	t _{PHL} typ. (μs)	CMTI min. (V/μs)	Operating Temperature (°C)	Isolation Voltage V _{ISO} (V _{RMS})	Safety Standard(s)
SFH6345		DIP-8	1	19	0.3	0.3	30000	-55 to +100	5300	UL, VDE, cUL, CQC
		SMD-8								
		DIP-8, 400 mil								
VOM452, VOM453		SOP-5	1	15	0.5	0.2	15000	-55 to +100	3750	UL, cUL, VDE

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