

Opto-Coupler

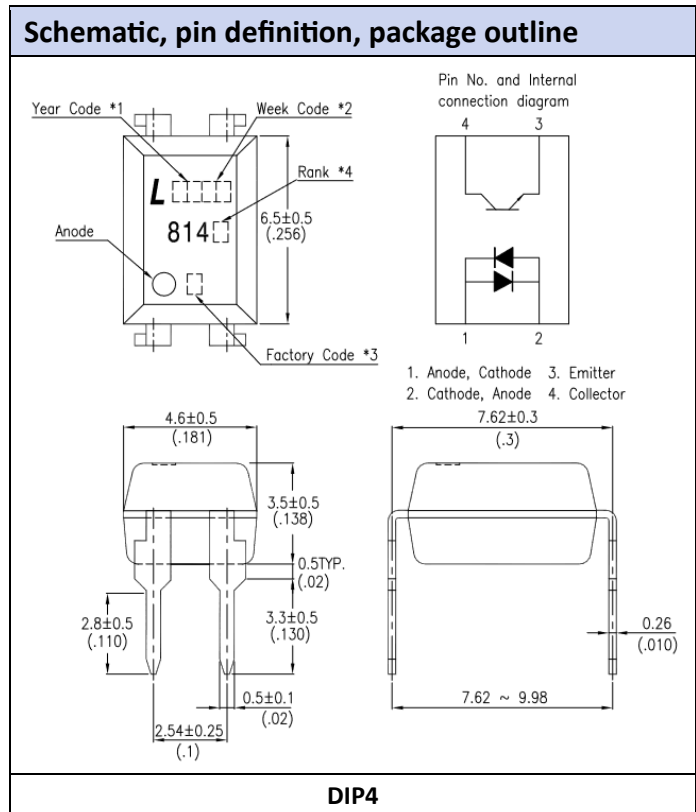
Primary characteristics		
Parameter	Value	Unit
Current transfer ratio (CTR)	50 ~ 150	%
Input-output isolation voltage (RMS)	5000	V

Features

- Pb-Free and RoHS Compliant
- DIP4 package for easy automatic insertion
- Low collector dark current
- High isolation voltage

Applications

- AC line monitor
- Unknown polarity DC sensor
- Telephone line interface

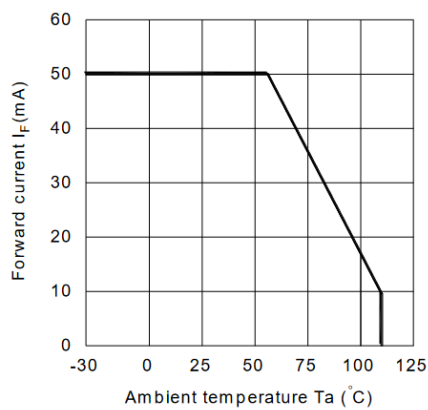
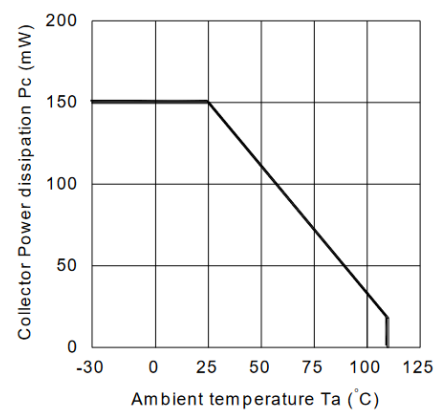


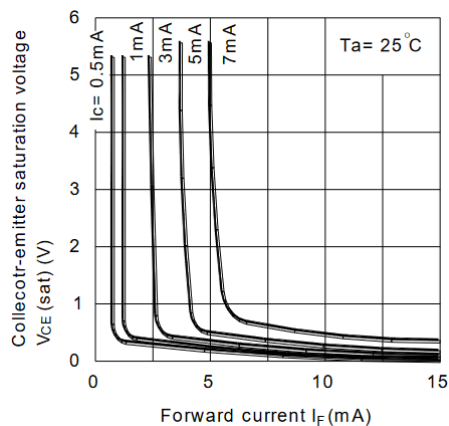
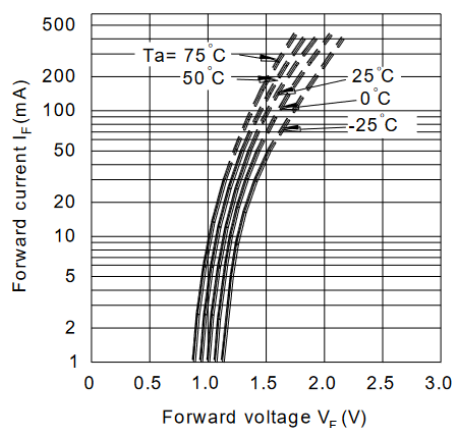
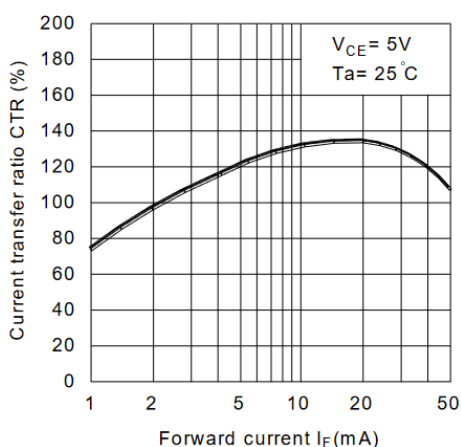
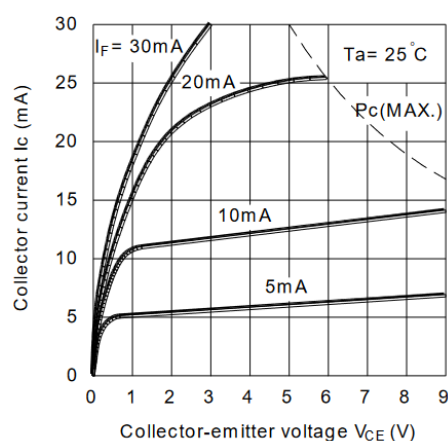
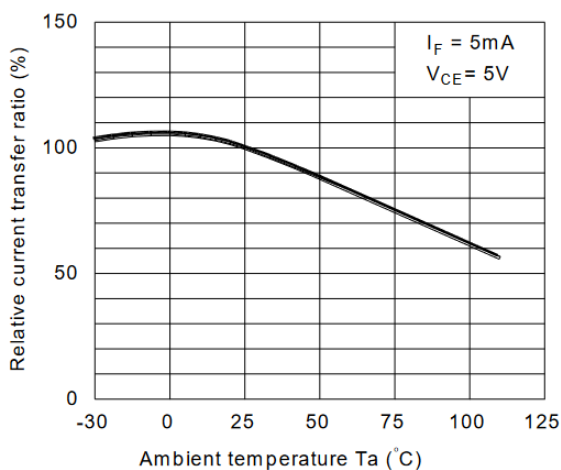
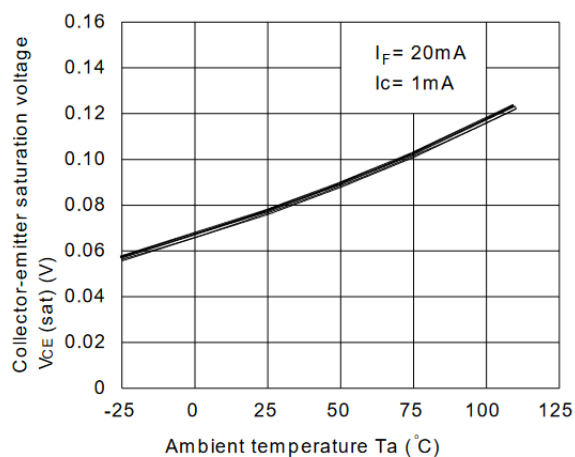
Absolute maximum ratings

Characteristic		Symbol	Rating	Unit
Input	Forward current	I_F	±50	mA
	Power dissipation	P	70	mW
Output	Collector-emitter voltage	V_{CEO}	35	V
	Emitter-collector voltage	V_{ECO}	6.0	V
	Collector current	I_C	50	mA
	Collector power dissipation	P_C	160	mW
Total power dissipation		P_{tot}	200	mW
Isolation voltage (AC for 1 minute, RH: 40~60%)		V_{ISO}	5000	V_{RMS}
Operating temperature range		T_{OPR}	-30 ~ 110	°C
Storage temperature range		T_{STG}	-55 ~ 150	°C
Soldering temperature (10 seconds)		T_{sol}	260	°C

Electrical and optical characteristics

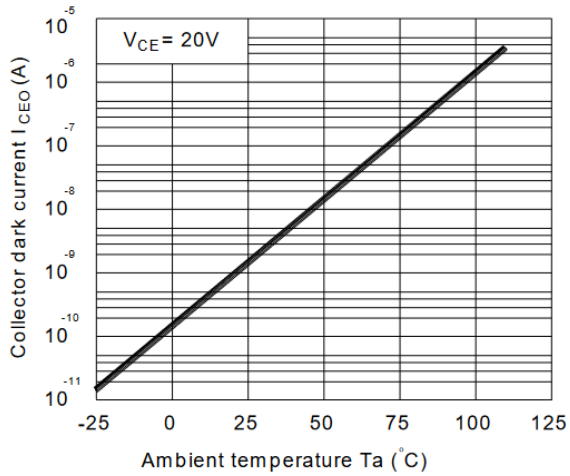
Characteristic		Symbol	Test conditions	Value			Unit
				Min.	Typ.	Max.	
Input	Forward voltage	V_F	$I_F=20\text{mA}$	-	1.2	1.4	V
	Terminal capacitance	C_t	$V=0, f=1.0\text{kHz}$	-	50	250	pF
Output	Collector dark current	I_{CEO}	$V_{CE}=20\text{V}, I_F=0$	-	-	100	nA
	Collector-emitter breakdown voltage	BV_{CEO}	$I_C=100\mu\text{A}, I_F=0$	35	-	-	V
	Emitter-collector breakdown voltage	BV_{ECO}	$I_E=10\mu\text{A}, I_F=0$	6.0	-	-	V
Transfer characteristics	Collector current	I_C	$I_F=\pm 1.0\text{mA}, V_{CE}=5.0\text{V}$	0.2	-	3.0	mA
	Current transfer ratio	CTR		50	-	150	%
	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_F=\pm 20\text{mA}, I_C=1.0\text{mA}$	-	100	200	mV
	Isolation resistance	R_{iso}	DC500V, 40 ~ 60% R.H.	50	100	-	GΩ
	Floating capacitance	C_f	$V=0, f=1.0\text{MHz}$	-	0.6	1.0	pF
	Response time (rise)	t_r	$V_{CE}=2.0\text{V}, I_C=2.0\text{mA}$	-	4.0	18	μs
	Response time (fall)	t_f	$R_L=100\Omega$	-	3.0	18	μs

Characteristic curves
Forward current vs. ambient temperature

Collector power dissipation vs. ambient temperature


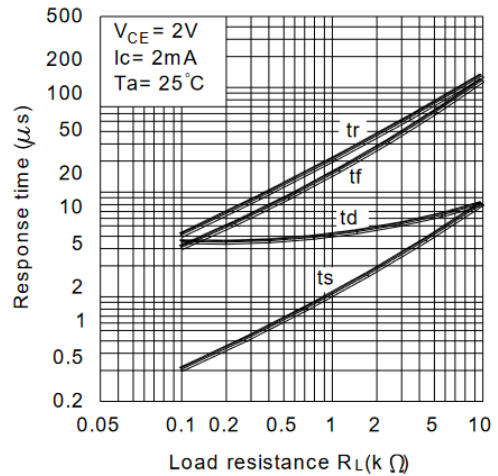
Characteristic curves
Collector-emitter saturation voltage vs. forward current

Forward current vs. forward voltage

Current transfer ratio vs. forward current

Collector current vs. collector-emitter voltage

Relative current transfer ratio vs. ambient temperature

Collector-emitter saturation voltage vs. ambient temperature


Characteristic curves

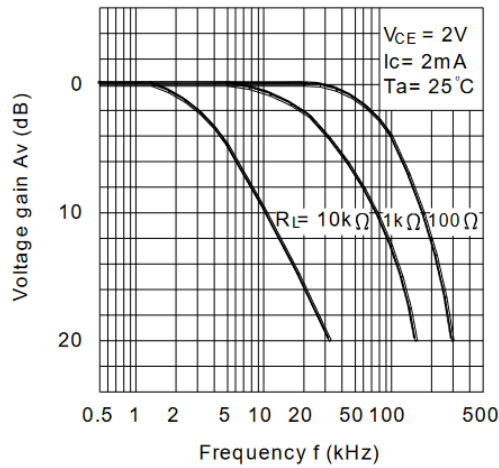
Collector dark current vs. ambient temperature



Response time vs. load resistance

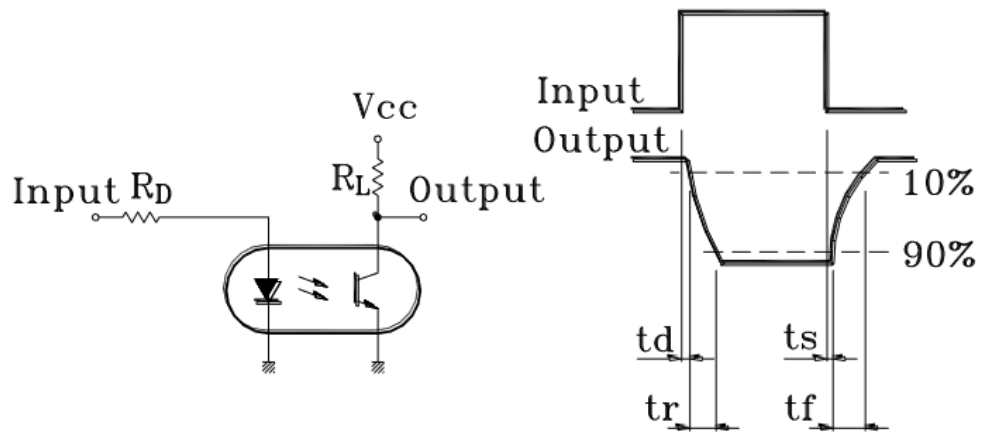


Frequency response

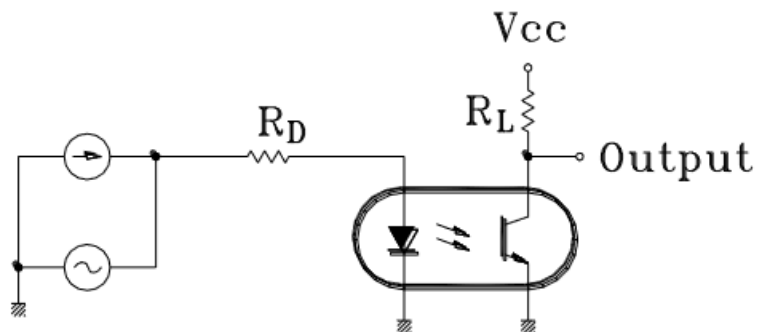


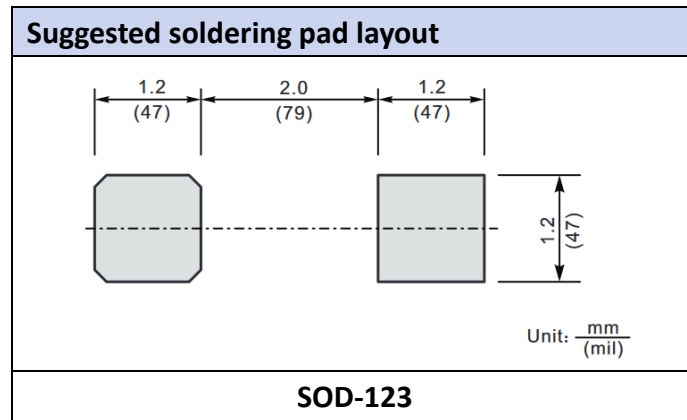
Test circuits

Test circuit for response time



Test circuit for frequency response





Ordering information			
Part Number	Package	Shipping Quantity	Dimensions
LTV-814-A	DIP4	2000 pcs	---

Disclaimer

Akyga semi reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. Akyga semi or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on Akyga semi data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. Akyga semi does not assume any liability arising out of the application or use of any product or circuit. Akyga semi products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of Akyga semi. Customers using or selling Akyga semi components for use in such applications do so at their own risk and shall agree to fully indemnify Akyga semi and its subsidiaries harmless against all claims, damages and expenditures.