Optoisolators

Phototransistors		Total Device Ratings			LED Max Ratings		Phototransistor Ratings					
ECG Type	Output Configuration	Isolation Voltage V_{iso} Surge (V)	Total Power P_t (mW)	DC Current Transfer Ratio % *	Forward Current I_F (mA)	Reverse Voltage V_R (V)	Collector to Base Voltage BV_{CBO} (V)	Collector to Emitter Voltage BV_{CEO} (V)	Collector Current I_C (mA)	Typ Freq KHz	Ckt. Diag.	Fig. No.
ECG3040	NPN Transistor	7500	250	20	80	3	70	30	3.5 Typ	300	A	P28
ECG3041	NPN Transistor	7500	250	100	60	6	70	30	100 Max	150	A	
ECG3042	NPN Transistor	7500	250	20	60	3	70	30	50 Max	150	A	
ECG3043	NPN Transistor	3550	260	70	60	3	70	80	50 Max	100	A	
ECG3044	NPN Darlington	7500	300	300	80	3	--	80	150 Max	75	B	
ECG3045	NPN Darlington	7500	300	500	80	3	--	80	150 Max	75	B	
ECG3081	NPN Transistor	6000	250	20	60	3	--	30	100	100	D	P27
ECG3082	NPN Darlington	6000	250	400	60	3	--	30	100	75	C	
ECG3083	NPN Darlington	7500	250	100	60	3	55	55	100	75	E	P28
ECG3084	NPN Darlington	7500	250	200	60	3	30	30	100	75	E	
ECG3086	NPN Dual Transistor	7500	400	50	60	3	---	30	30	200	F	P29
ECG3220	NPN Dual Transistor	5000	150	100	50	5	---	55	50	---	V	
ECG3088	NPN Transistor	7500	300	20	60	6	300	300 (BV_{CER})	100	200	A	P28
ECG3089	NPN Transistor	7500	300	20	60	--	70	30	100	200	M	
ECG3096	Low Input Drive NPN Transistor	7500	300	50 @ I_F 1 mA	60	6.0	70	30	100	200	A	
ECG3098	NPN Transistor	5000	250	100	60	5	---	55	50	---	S	P55
ECG3221	NPN Quad Transistor	5000	150	100	50	5	---	55	50	---	W	P61

* DC Current Transfer Ratio is the output transistor collector current divided by the LED forward current - $h_{FE} = I_C/I_F$

Photothyristors		Total Device Ratings		LED Max Ratings		Photothyristor Ratings						
ECG Type	Output Configuration	Isolation Voltage V_{iso} Surge (V)	Power P_t (mW)	Forward Current I_F (mA)	Reverse Voltage V_R (V)	V_{DRM} (V)	I_T RMS (mA)	I_{FT} (mA)	V_F (on) (V) 100 mA	I_{HOLD} (mA)	Ckt. Diag.	Fig. No.
ECG3046	SCR	3550	260	60	3	400	100	14	1.3	.5	G	P28
ECG3047	TRIAC	7500	330	50	3	250	100	10	3.0	.1	H	
ECG3048	TRIAC	7500	330	50	3	400	100	10	3.0	.1	H	
ECG3049	TRIAC with Zero Crossing Circuit	7500	330	50	3	250	100	15	3.0	.1	J	
ECG3091	SCR	4000	400	60	6	400	300	11	1.3 at 300 mA	.5	G	
ECG3097	TRIAC with Zero Crossing Circuit	7500	300	50	6	400	100	15	3.0	.2	J	

Photo FET		Total Device Ratings		LED Max Ratings		Photo FET Ratings						
ECG Type	Output Configuration	Isolation Voltage V_{iso} Surge (V)	Power P_t (mW)	Forward Current I_F (mA)	Reverse Voltage V_R (V)	Drain to Source Breakdown Voltage BV_{DSS} (V)	Drain Current I_D (mA)	$R_{DS_{on}}$ (Ohms)	T_{on} (μsec)	T_{off} (μsec)	Ckt. Diag.	Fig. No.
ECG3085	FET	2500	300	60	6	±30	±100	200	15	15	K	P28

TTL Compatible Photo Coupled Logic Gates		Total Device Ratings		LED Ratings		Output Ratings					
ECG Type	Output Configuration	Isolation Voltage V_{iso} (V)	Power P_t (mW)	Forward Current I_F (mA)	Reverse Voltage V_R (V)	Max Supply Voltage V_{CC} (V)	Output Current I_O (mA)	Propagation Delay Time (nsecs)	Enable Voltage V_E (V)	Ckt. Diag.	Fig. No.
ECG3087	Hi Speed Open Collector, NAND Gate	3000	100	10	5.0	5.0	50	75	5.0	L	P29
ECG3094	Dual Hi Speed Open Collector, NAND Gates	3000	60	15	5.0	5.0	16 Per Channel	75	--	Q	

Optoisolators (cont'd)

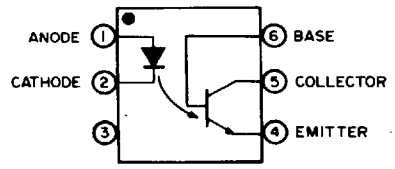
TTL Compatible Phototransistors		Device Ratings		LED Max Ratings		Output Ratings					Ckt. Diag.	Fig. No.
ECG Type	Output Configuration	Isolation Voltage Viso (V)	Power Pt (mW)	Forward Current IF (mA)	Reverse Voltage VR (V)	Max Vcc (V)	Current Transfer Ratio % *	Output Current Io (mA)	Propagation Delay Time (nsec)	Data Transfer Rate Mbit/sec		
ECG3092	Open Collector NPN Transistor	3000	100	25	5	15	15	8	800	1	O	P29
ECG3093	NPN Split Darlington	3000	100	20	5	18	400	60	tPHL 1 µsec tPLH 7 µsec	100K	P	
ECG3095	Dual Open Collector, NPN Transistors	3000	100	25	5	15	15	8	800	1	R	

* DC Current Transfer Ratio is the output transistor collector current divided by the LED forward current - $h_{FE} = I_C / I_F$

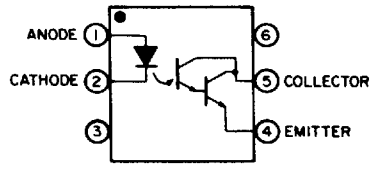
		Total Device Ratings		Led Max Ratings		Output Ratings						
ECG Type	Output Configuration	Isolation Voltage Viso Surge (V)	Power Pt (mW)	Forward Current IF (mA)	Reverse Voltage VR (V)	Vcc Voltage Range (V)	Output Voltage Vo (V)	Output Current Io (mA)	Turn-On Time Ton (µsec)	Turn-Off Time Toff (µsec)	Ckt. Diag.	Fig. No.
ECG3090	Schmitt Trigger	7500	150	60	6	3V to 15V	15 max	50 max	1.2 typ	1.2 typ	N	P28

Optoisolator Circuits

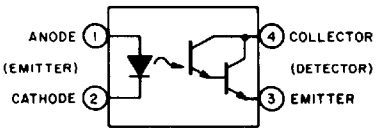
Diag. A — Fig. P28
ECG 3040 3041 3042 3043 3088 3096



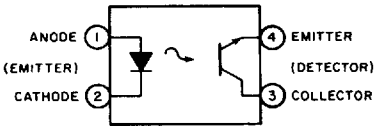
Diag. B — Fig. P28
ECG 3044 3045



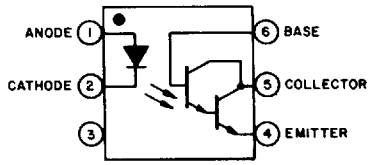
Diag. C — Fig. P27
ECG3082



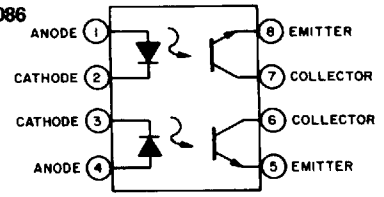
Diag. D — Fig. P27
ECG3081



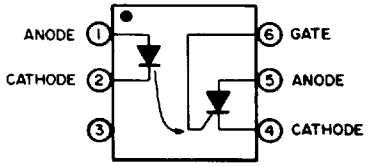
Diag. E — Fig. P28
ECG 3083 3084



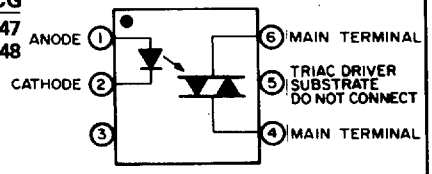
Diag. F — Fig. P29
ECG3086



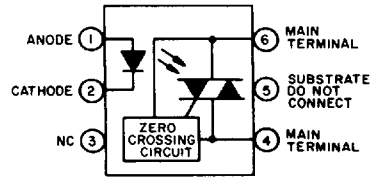
Diag. G — Fig. P28
ECG 3046 3091



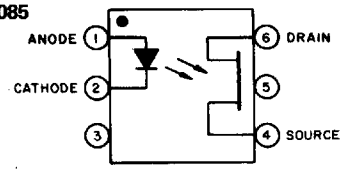
Diag. H — Fig. P28
ECG 3047 3048



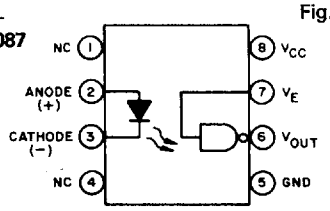
Diag. J — Fig. P28
ECG 3049 3097



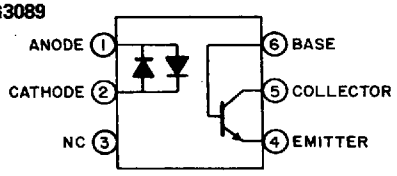
Diag. K — Fig. P28
ECG3085



Diag. L — Fig. P29
ECG3087



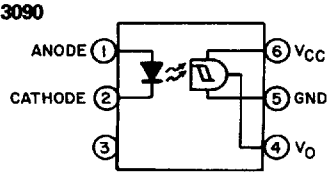
Diag. M — Fig. P28
ECG3089



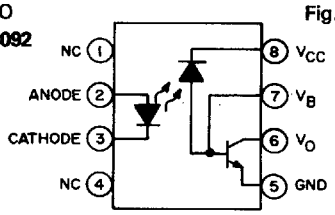
K

Optoisolator Circuits (cont'd)

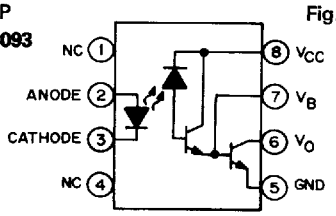
Diag. N — Fig. P28
ECG3090



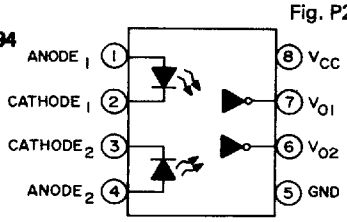
Diag. O — Fig. P29
ECG3092



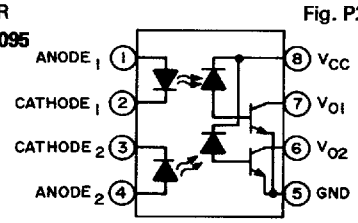
Diag. P — Fig. P29
ECG3093



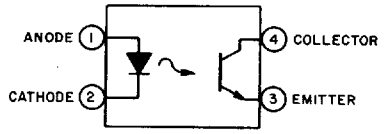
Diag. Q — Fig. P29
ECG3094



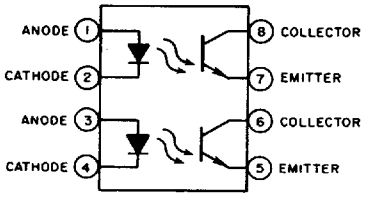
Diag. R — Fig. P29
ECG3095



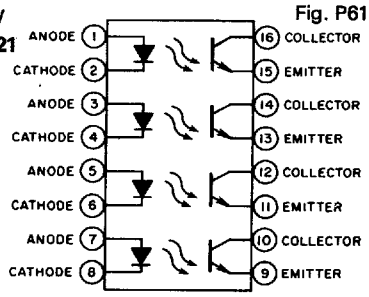
Diag. S — Fig. P55
ECG3098



Diag. V — Fig. P29
ECG3220



Diag. W — Fig. P61
ECG3221



Optoisolator Outlines

Fig. P27
ECG
3081
3082

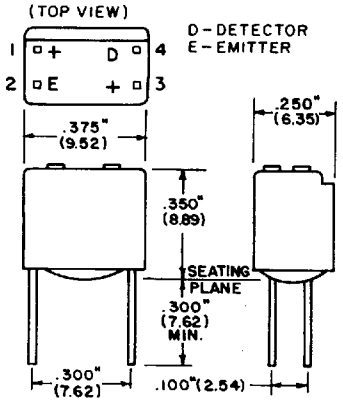


Fig. P28
ECG
3040 **3096**
3041 **3097**
3042
3043
3044
3045
3046
3047
3048
3049
3083
3084
3085
3088
3089
3090
3091

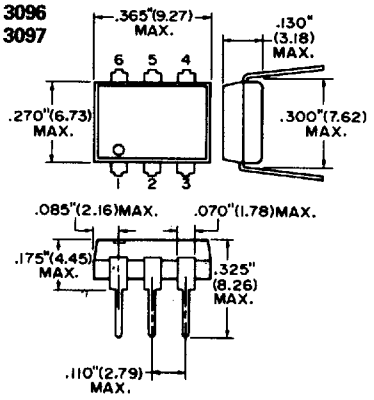


Fig. P29
ECG
3086 **3092** **3094** **3220**
3087 **3093** **3095**

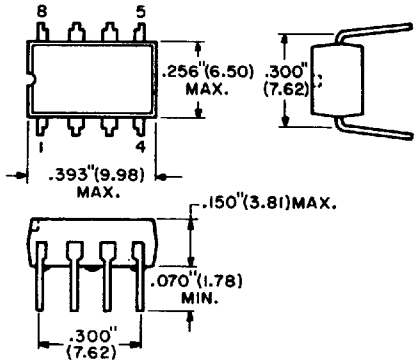


Fig. P55
ECG
3098

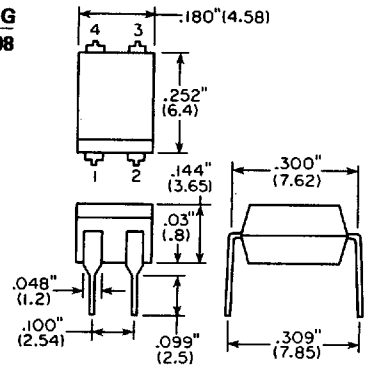


Fig. P61
ECG
3221