

# Optocoupler

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## *Table of Content*

<i>Table of Content</i>	<i>1</i>
<i>4 Pin DIP</i>	<i>2</i>
<i>4 Pin SOP</i>	<i>3</i>
<i>4 Pin SSOP</i>	<i>3</i>
<i>6 Pin DIP</i>	<i>5</i>
<i>8 Pin DIP</i>	<i>8</i>

**Optocouplers — 4 Pin DIP**

Products	$V_F$ (V) Typ	CTR @ $\pm 1\text{mA } I_F$ (%)		$BV_{CEO}$ (V) Min	$V_{CE(SAT)}$ (V) Max	$t_R/t_F$ ( $\mu\text{s}$ ) Max	$V_{ISO}$ (Vrms)
		Min	Max				
<b>Photodarlington Output, DC Input</b>							
QB815	1.2	600	7500	35	1.0	300/250	5000

Products	$V_F$ (V) Typ	CTR @ $\pm 1\text{mA } I_F$ (%)		$BV_{CEO}$ (V) Min	$V_{CE(SAT)}$ (V) Max	$t_R/t_F$ ( $\mu\text{s}$ ) Max	$V_{ISO}$ (Vrms)
		Min	Max				
<b>Phototransistor Output, AC Input</b>							
QB814	1.2	20	300	80	0.2	18/18	5000

Products	$V_F$ (V) Typ	CTR @ $\pm 5\text{mA } I_F$ (%)		$BV_{CEO}$ (V) Min	$V_{CE(SAT)}$ (V) Max	$t_R/t_F$ ( $\mu\text{s}$ ) Max	$V_{ISO}$ (Vrms)
		Min	Max				
<b>Phototransistor Output, DC Input</b>							
QB816	1.2	50	600	80	0.2	18/18	5000
QB817	1.2	50	600	35	0.2	18/18	5000

### Optocouplers — 4 Pin SOP

Products	$V_F$ (V) Typ	CTR @ $\pm 1\text{mA } I_F$ (%)		$BV_{CEO}$ (V) Min	$V_{CE(SAT)}$ (V) Max	$t_R/t_F$ ( $\mu\text{s}$ ) Max	$V_{ISO}$ (Vrms)
		Min	Max				
<b>Phototransistor Output, AC Input</b>							
QB554	1.2	20	300	80	0.2	18/18	3750

Products	$V_F$ (V) Typ	CTR @ $\pm 5\text{mA } I_F$ (%)		$BV_{CEO}$ (V) Min	$V_{CE(SAT)}$ (V) Max	$t_R/t_F$ ( $\mu\text{s}$ ) Max	$V_{ISO}$ (Vrms)
		Min	Max				
<b>Phototransistor Output, DC Input</b>							
QB557	1.2	50	600	80	0.2	18/18	3750

### Optocouplers — 4 Pin SSOP

Products	$V_F$ (V) Typ	CTR @ $\pm 1\text{mA } I_F$ (%)		$BV_{CEO}$ (V) Min	$V_{CE(SAT)}$ (V) Max	$t_R/t_F$ ( $\mu\text{s}$ ) Max	$V_{ISO}$ (Vrms)
		Min	Max				
<b>Phototransistor Output, AC Input</b>							
QB5H4	1.2	20	300	80	0.2	18/18	3750

Products	$V_F$ (V) Typ	CTR @ $\pm 5\text{mA } I_F$ (%)		$BV_{CEO}$ (V) Min	$V_{CE(SAT)}$ (V) Max	$t_R/t_F$ ( $\mu\text{s}$ ) Max	$V_{ISO}$ (Vrms)
		Min	Max				
<b>Phototransistor Output, DC Input</b>							
QB5H7	1.2	50	600	80	0.2	18/18	3750

**Optocouplers — 5 Pin SOP**

Products	V <sub>F</sub> (V) Typ	t <sub>ELH</sub> /t <sub>EHL</sub> (ns) Typ	C <sub>MH</sub> /C <sub>ML</sub> (V/μs) Min	t <sub>PHL</sub> /t <sub>PLH</sub> (ns)	V <sub>OL</sub> (V) Max	V <sub>ISO</sub> (V <sub>rms</sub> )
<b>10Mbit/s Logic Output, DC Input</b>						
QBM600	1.45	50      600	80	0.4	18/18	2500

Products	V <sub>F</sub> (V) Typ	CTR @ ±1.6mA I <sub>F</sub> (%)		C <sub>MH</sub> /C <sub>ML</sub> (V/μs) Min	t <sub>PHL</sub> /t <sub>PLH</sub> (ns)	V <sub>OL</sub> (V) Max	V <sub>ISO</sub> (V <sub>rms</sub> )
		Min	Max				
<b>1Mbit/s Transistor Output, DC Input</b>							
QBM453	1.45	19	50	1000/1000	0.8/0.8	0.4	5000

**Optocouplers — 6 Pin DIP**

Products	V <sub>F</sub> (V) Typ	CTR @ ±10mA I <sub>F</sub> (%)		BV <sub>CEO</sub> (V) Min	V <sub>CE(SAT)</sub> (V) Max	t <sub>R</sub> /t <sub>F</sub> (μs) Max	V <sub>ISO</sub> (Vrms)
		Min	Max				
<b>Phototransistor Output, DC Input</b>							
4N25	1.2	20	-	80	0.5	3.0/3.0	5000
4N26	1.2	20	-	80	0.5	3.0/3.0	5000
4N27	1.2	10	-	80	0.5	3.0/3.0	5000
4N28	1.2	10	-	80	0.5	3.0/3.0	5000
4N35	1.2	100	-	80	0.3	10/9.0	5000
4N36	1.2	100	-	80	0.3	10/9.0	5000
4N37	1.2	100	-	80	0.3	10/9.0	5000
4N38	1.2	20	-	80	1.0	10/9.0	5000
CNY17-1	-	40	80	80	0.3	6.0/8.0	5000
CNY17-2	-	63	125	80	0.3	6.0/8.0	5000
CNY17-3	-	100	200	80	0.3	6.0/8.0	5000
CNY17-4	-	160	320	80	0.3	6.0/8.0	5000
H11A1	1.2	50	-	80	0.4	3.0/3.0	5000
H11A2	1.2	20	-	80	0.4	3.0/3.0	5000
H11A3	1.2	20	-	80	0.4	3.0/3.0	5000
H11A4	1.2	10	-	80	0.4	3.0/3.0	5000
H11A5	1.2	30	-	80	0.4	3.0/3.0	5000
MCT2	1.23	20	-	80	0.4	10/10	5000
MCT2E	1.23	20	-	80	0.4	10/10	5000
TIL111	1.22	-	-	80	0.4	10/10	5000
TIL117	1.2	50	-	80	0.4	10/10	5000

**Optocouplers — 6 Pin DIP (Continued)**

Products	V <sub>F</sub> (V) Typ	CTR @ ±10mA I <sub>F</sub> (%)		BV <sub>CEO</sub> (V) Min	V <sub>CE(SAT)</sub> (V) Max	t <sub>R</sub> /t <sub>F</sub> (μs) Max	V <sub>ISO</sub> (Vrms)
		Min	Max				
<b>Phototransistor Output, DC Input (No external base connection)</b>							
CNY17F-1	1.2	40	80	80	0.3	6.0/8.0	5000
CNY17F-2	1.2	63	125	80	0.3	6.0/8.0	5000
CNY17F-3	1.2	100	200	80	0.3	6.0/8.0	5000
CNY17F-4	1.2	163	320	80	0.3	6.0/8.0	5000

Products	V <sub>F</sub> (V) Typ	CTR @ ±10mA I <sub>F</sub> (%)		BV <sub>CEO</sub> (V) Min	V <sub>CE(SAT)</sub> (V) Max	t <sub>R</sub> /t <sub>F</sub> (μs) Max	V <sub>ISO</sub> (Vrms)
		Min	Max				
<b>Phototransistor Output, AC Input</b>							
H11AA1	1.2	20	-	80	0.4	10/10	5000
H11AA2	1.2	10	-	80	0.4	10/10	5000
H11AA3	1.2	50	-	80	0.4	10/10	5000
H11AA4	1.2	100	-	80	0.4	10/10	5000

Products	V <sub>F</sub> (V) Typ	CTR @ ±10mA I <sub>F</sub> (%)		BV <sub>CEO</sub> (V) Min	V <sub>CE(SAT)</sub> (V) Max	t <sub>ON</sub> /t <sub>OFF</sub> (μs) Max	V <sub>ISO</sub> (Vrms)
		Min	Max				
<b>Photodarlington Output, DC Input</b>							
4N29	1.2	100	-	55	1.0	5.0/40	5000
4N30	1.2	100	-	55	1.0	5.0/40	5000
4N31	1.2	50	-	55	1.2	5.0/40	5000
4N32	1.2	500	-	55	1.0	5.0/100	5000
4N33	1.2	500	-	55	1.0	5.0/100	5000
TIL113	1.2	300	-	55	1.2	5.0/100	5000

**Optocouplers — 6 Pin DIP (Continued)**

Products	$V_{TM}$ (V)	$V_{INH}$ (V)	$V_{DRM}$ (V)	$V_F$ (V) Typ	$I_{FT}$ (mA)	$V_{ISO}$ (Vrms)
<b>Random Phase Triac Output, DC Input</b>						
QB3010	2.5	-	250	1.18	15	5000
QB3011	2.5	-	250	1.18	10	5000
QB3012	2.5	-	250	1.18	5.0	5000
QB3021	2.5	-	400	1.18	15	5000
QB3022	2.5	-	400	1.18	10	5000
QB3023	2.5	-	400	1.18	5.0	5000
QB3051	2.5	-	600	1.18	15	5000
QB3052	2.5	-	600	1.18	10	5000
QB3053	2.5	-	600	1.18	5.0	5000

Products	$V_{TM}$ (V)	$V_{INH}$ (V)	$V_{DRM}$ (V)	$V_F$ (V) Max	$I_{FT}$ (mA)	$V_{ISO}$ (Vrms)
<b>Zero Crossing Triac Output, DC Input</b>						
QB3031	3	20	250	-	15	5000
QB3032	3	20	250	-	10	5000
QB3033	3	20	250	-	5.0	5000
QB3041	3	20	400	-	15	5000
QB3042	3	20	400	-	10	5000
QB3043	3	20	400	-	5.0	5000
QB3061	3	20	600	-	15	5000
QB3062	3	20	600	-	10	5000
QB3063	3	20	600	-	5.0	5000
QB3081	3	20	800	-	15	5000
QB3082	3	20	800	-	10	5000
QB3083	3	20	800	-	5.0	5000

**Optocouplers — 8 Pin DIP**

Products	$V_F$ (V) Typ	CTR @ $\pm 1.6\text{mA } I_F$ (%)		$C_{MH}/C_{ML}$ (V/ $\mu\text{s}$ ) Min	$t_{PHL}/t_{PLH}$ (ns)	$V_{OL}$ (V) Max	$V_{ISO}$ (V <sub>rms</sub> )
		Min	Max				
<b>Split Darlington Output, DC Input</b>							
6N138	1.3	500	2000	1000/1000	15/50	0.4	5000
6N139	1.3	500	2000	1000/1000	30/90	0.4	5000

Products	$V_F$ (V) Typ	CTR @ $\pm 1.6\text{mA } I_F$ (%)		$C_{MH}/C_{ML}$ (V/ $\mu\text{s}$ ) Min	$t_{PHL}/t_{PLH}$ (ns)	$V_{OL}$ (V) Max	$V_{ISO}$ (V <sub>rms</sub> )
		Min	Max				
<b>High Speed 1Mbit/s Transistor Output, DC Input</b>							
Q4502	1.45	19	50	1000/1000	0.8/0.8	0.4	5000
6N135	1.45	7.0	50	1000/1000	1.5/1.5	0.4	5000
6N136	1.45	19	50	1000/1000	0.8/0.8	0.4	5000

Products	$V_F$ (V) Typ	$t_{ELH}/t_{EHL}$ (ns) Typ	$C_{MH}/C_{ML}$ (V/ $\mu\text{s}$ ) Min	$t_{PHL}/t_{PLH}$ (ns)	$V_{OL}$ (V) Max	$V_{ISO}$ (V <sub>rms</sub> )
6N137	1.4	15/15	5000/5000	75/75	0.6	5000

Products	$V_F$ (V) Typ	CTR @ $\pm 1\text{mA } I_F$ (%)		$BV_{CEO}$ (V) Min	$V_{CE(SAT)}$ (V) Max	$t_R/t_F$ ( $\mu\text{s}$ ) Max	$V_{ISO}$ (V <sub>rms</sub> )
		Min	Max				
<b>Dual Channel Photodarlington Output, DC Input</b>							
QB825	1.2	600	7500	40	1.0	60.0 / 53.0	5000

Products	$V_F$ (V) Typ	CTR @ $\pm 1\text{mA } I_F$ (%)		$BV_{CEO}$ (V) Min	$V_{CE(SAT)}$ (V) Max	$t_R/t_F$ ( $\mu\text{s}$ ) Max	$V_{ISO}$ (V <sub>rms</sub> )
		Min	Max				
<b>Dual Channel Phototransistor Output, DC Input</b>							
QB827	1.2	50	600	80	0.4	3.0 / 4.0	5000