



# Types OPB800W, OPB810W Series

Electrical Characteristics ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

SYMBOL	PARAMETER	MIN	MAX	UNITS	TEST CONDITIONS
<b>Input Diode</b>					
$V_F$	Forward Voltage		1.7	V	$I_F = 20\text{ mA}$
$I_R$	Reverse Current		100	$\mu\text{A}$	$V_R = 2.0\text{ V}$
<b>Output Phototransistor</b>					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	30		V	$I_C = 1.0\text{ mA}$
$V_{(BR)ECO}$	Emitter-Collector Breakdown Voltage	5.0		V	$I_E = 100\ \mu\text{A}$
$I_{CEO}$	Collector Dark Current		100	nA	$V_{CE} = 10\text{ V}$
<b>Coupled</b>					
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage				
	Parameter A	OPB800W/OPB810W	0.4	V	$I_C = 250\ \mu\text{A}, I_F = 20\text{ mA}$
	Parameter B	OPB801W/OPB811W	0.4	V	$I_C = 500\ \mu\text{A}, I_F = 10\text{ mA}$
	Parameter C	OPB802W/OPB812W	0.6	V	$I_C = 1800\ \mu\text{A}, I_F = 20\text{ mA}$
$I_{C(ON)}$	On-State Collector Current				
	Parameter A	OPB800W/OPB810W	500	$\mu\text{A}$	$V_{CE} = 10\text{ V}, I_F = 20\text{ mA}$
	Parameter B	OPB801W/OPB811W	1000	$\mu\text{A}$	$V_{CE} = 5\text{ V}, I_F = 10\text{ mA}$
	Parameter C	OPB802W/OPB812W	1800	$\mu\text{A}$	$V_{CE} = 0.6\text{ V}, I_F = 20\text{ mA}$

SLOTTED  
OPTICAL  
SWITCHES

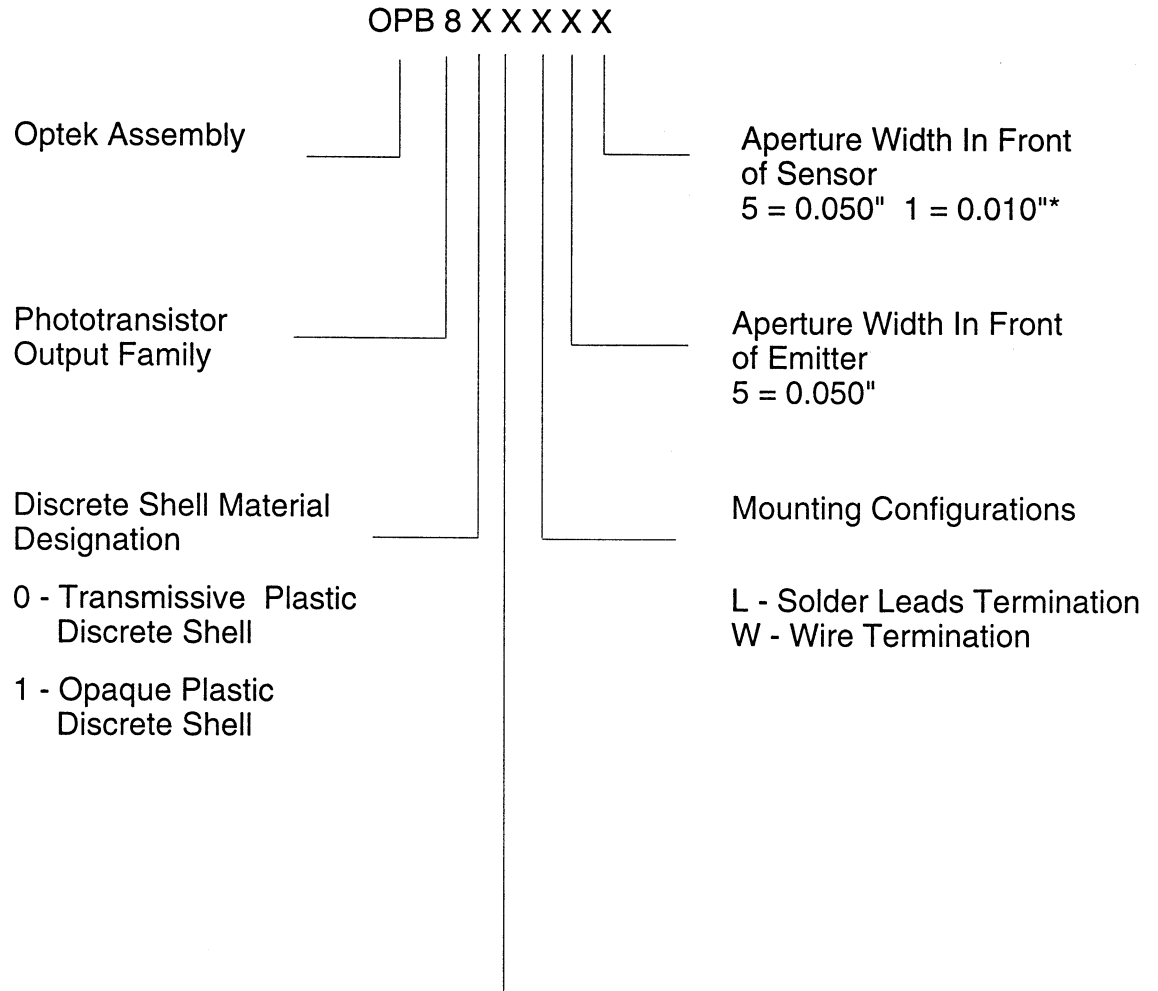
## Housing

All housings are an opaque grade of injection-molded plastic to minimize the assembly's sensitivity to ambient radiation, both visible and near-infrared. Discrete shells (exposed only on the parallel faces inside the device throat) are either IR transmissive plastic for applications where aperture contamination may occur or opaque plastic with aperture openings for maximum protection against ambient light.

Optek reserves the right to make changes at any time in order to improve design and to supply the best product possible.

Optek Technology, Inc. 1215 W. Crosby Road Carrollton, Texas 75006 (972)323-2200 Fax (972)323-2396

## PART NUMBER GUIDE



### Mechanical And Electrical Specification Variations

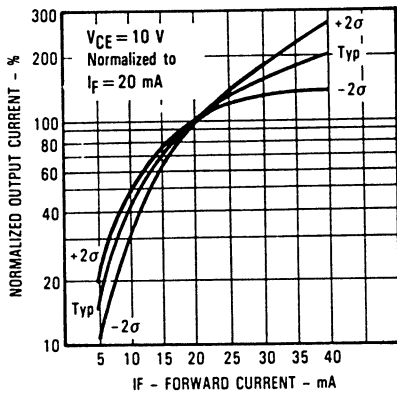
- 0 - Electrical Parameter A
- 1 - Electrical Parameter B
- 2 - Electrical Parameter C

\*Assemblies with 0.010" apertures are currently available with electrical parameter "A" only.

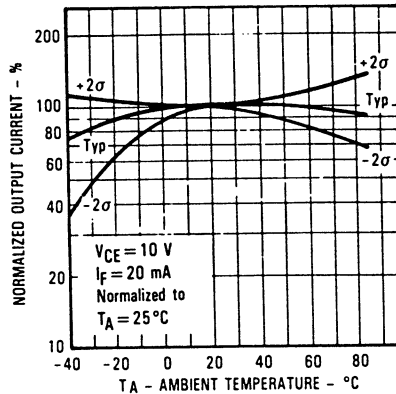
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## Typical Performance Curves

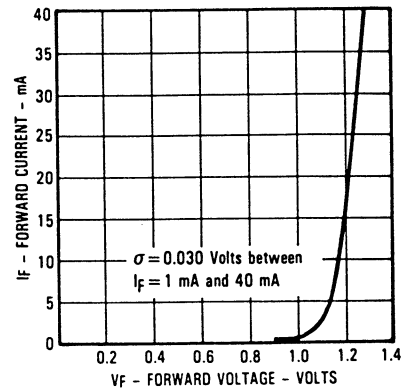
### Normalized Output Current vs Forward Current



### Normalized Output Current vs Ambient Temperature

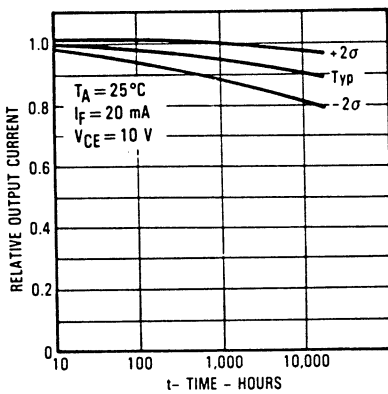


### Forward Current vs Forward Voltage Input Diode

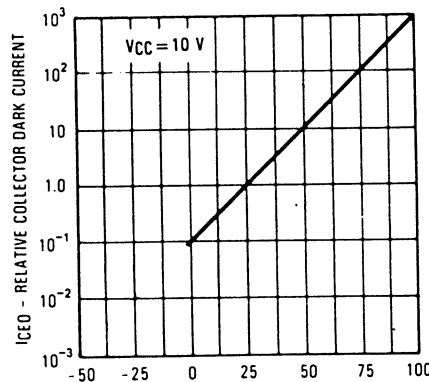


SLOTTED OPTICAL SWITCHES

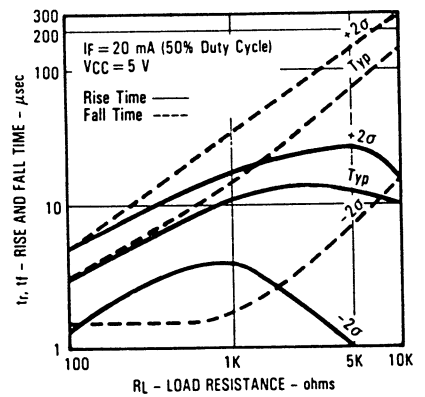
### Relative Output Current vs Time



### Collector Dark Current vs Ambient Temperature

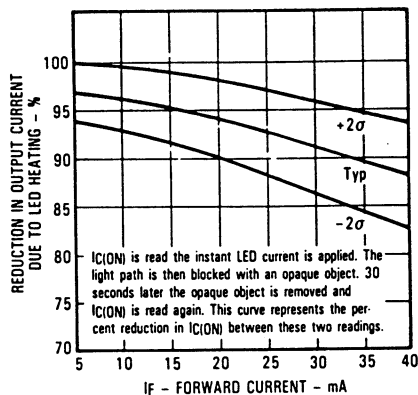


### Rise and Fall Time vs Load Resistance

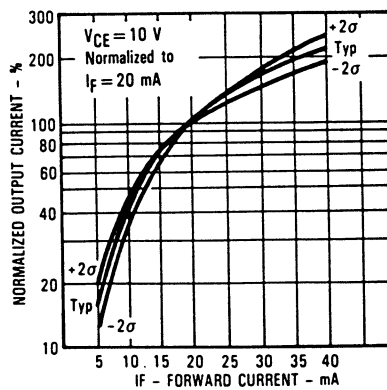


## All Part Numbers Ending in "1"

### Reduction in Output Current Due to LED Heating vs Forward Current



### Normalized Output Current vs Input Current



### Rise and Fall Time vs Load Resistance

