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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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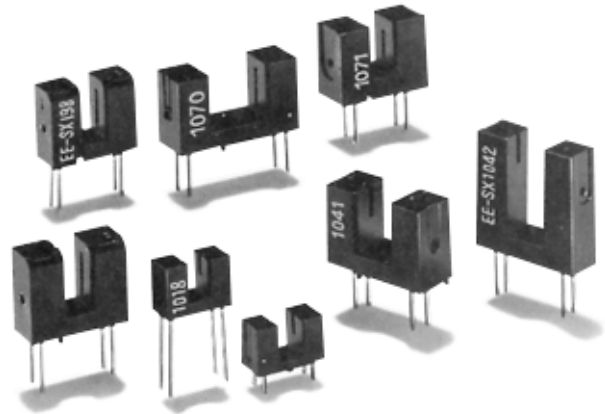
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



EE-SX198/199/1018/1025/1041/1042/1070/1071

Miniature Transmissive
Photomicrosensor with 2- to 8-mm
Slot Width and Phototransistor
Output

- Stable sensing at temperatures as high as 95°C (EE-SX1041, EE-SX1070)
- Compact model with a 5-mm wide slot (EE-SX1041)
- Model with 12-mm deep and 5-mm wide slot (EE-SX1042)
- Miniature model with a 2-mm wide slot (EE-SX1018)
- Low-profile model (5.4 mm high) with a 2.8-mm slot width (EE-SX1025)



Ordering Information

Appearance	Sensing method	Slot width	Slot depth	Sensing object	Output configuration	Weight	Part number	
	Transmissive	2 mm	4.5 mm	Opaque, 0.5 x 1.5 mm min.	Phototransistor	Approx. 0.2 g	EE-SX1018	
		2.8 mm	4.4 mm				EE-SX1025	
		3 mm	7.5 mm	Opaque, 0.5 x 2 mm min.		Approx. 0.6 g	EE-SX198	
							EE-SX199	
		3.4 mm	7.2 mm				EE-SX1071	
		5 mm	8.2 mm	Opaque, 0.5 x 2.2 mm min.				EE-SX1041
		5 mm	12 mm	Opaque, 0.5 x 2 mm min.			Approx. 0.8 g	EE-SX1042
		8 mm	8.2 mm	Opaque, 0.5 x 2.2 mm min.			Approx. 0.6 g	EE-SX1070

Specifications

■ ABSOLUTE MAXIMUM RATINGS (T_A = 25°C (77°F))

Item	Symbol	Rated value
Emitter	Forward current	I _F
	Reverse voltage	V _R
Detector	Collector-emitter voltage	V _{CEO}
	Collector current	I _C
	Collector dissipation	P _C
Ambient temperature	Operating	Topr
	Storage	Tstg

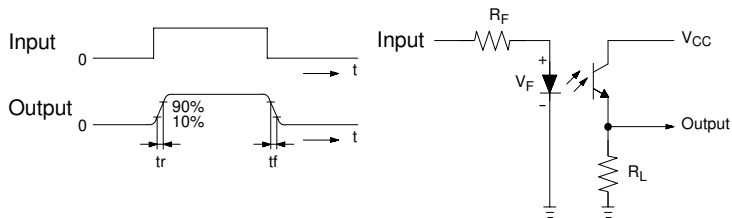
*Refer to Engineering Data if the ambient temperature is not within the normal room temperature range.

**The operating temperature of the EE-SX1041/1070 is -25° to 95°C (-13°F to 203°F).

■ CHARACTERISTICS (T_A = 25°C (77°F))

Item	Symbol	EE-SX1018/1025/1041/1042/1070/1071		EE-SX198/199	
		Value	Condition	Value	Condition
Emitter	Forward voltage	V _F	1.2 V typ. 1.5 V max.	I _F = 30 mA	1.2 V typ. 1.4 V max. I _F = 20 mA
	Reverse current	I _R	0.01 μA typ. 10 μA max.	V _R = 4 V	0.01 μA typ. 10 μA max. V _R = 4 V
	Peak emission wavelength	λ _{p(L)}	940 nm typ.	I _F = 20 mA	940 nm typ. I _F = 20 mA
Detector	Dark current	I _D	2 nA typ. 200 nA max.	V _{CE} = 10 V 0/x	2 nA typ. 200 nA max. V _{CE} = 10 V 0/x
	Peak spectral sensitivity wavelength	λ _{p(P)}	850 nm typ.	V _{CE} = 10 V	850 nm typ. V _{CE} = 10 V
Combination	Light current (collector current)	I _L	0.5 mA min. 14 mA max.	I _F = 20 mA V _{CE} = 10 V	0.5 mA min. 14 mA max. I _F = 20 mA V _{CE} = 5 V
	Collector-emitter saturated voltage	V _{CE (sat)}	0.1 V typ. 0.4 V max.	I _F = 20 mA I _L = 0.1 mA	0.1 V typ. 0.4 V max. I _F = 40 mA I _L = 0.5 mA
	Rising time (See Note.)	t _r	4 μs typ.	V _{CC} = 5 V R _L = 100 Ω	4 μs typ. V _{CC} = 5 V R _L = 100 Ω
	Falling time (See Note.)	t _f	4 μs typ.	I _L = 5 mA	4 μs typ. I _L = 5 mA

Note: The following illustrations show the rising time, t_r, and the falling time, t_f.

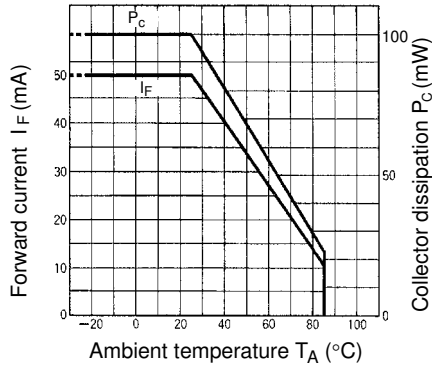


Engineering Data

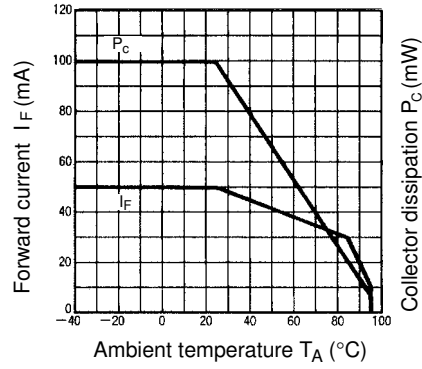
Note: The operating conditions of the photomicrosensor must be within the absolute maximum rating ranges.

■ TEMPERATURE CHARACTERISTICS

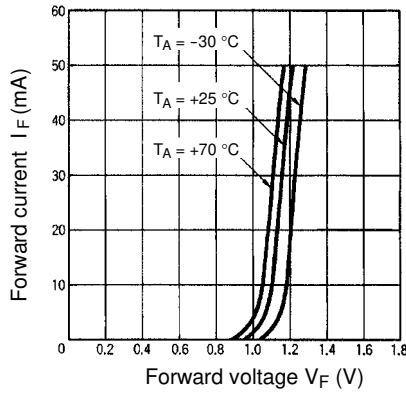
EE-SX198/199/1018/1025/1042/1071



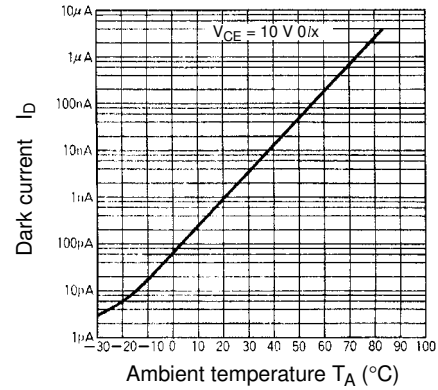
EE-SX1070/1041



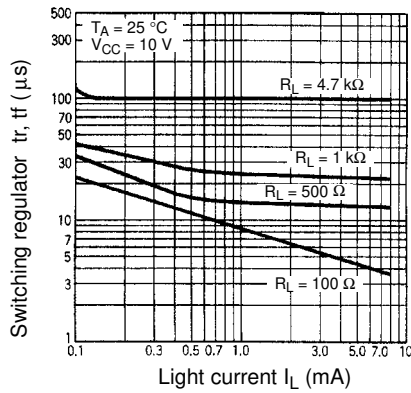
■ INPUT CHARACTERISTICS (TYPICAL)



■ DARK CURRENT TEMPERATURE DEPENDENCY (TYPICAL)

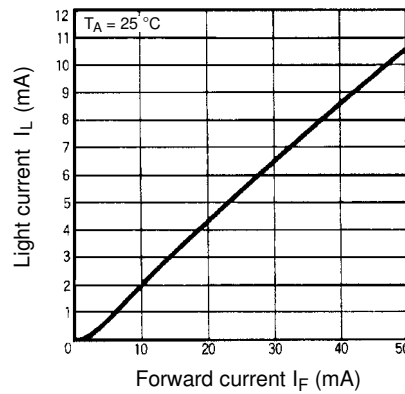


■ SWITCHING CHARACTERISTICS (TYPICAL)

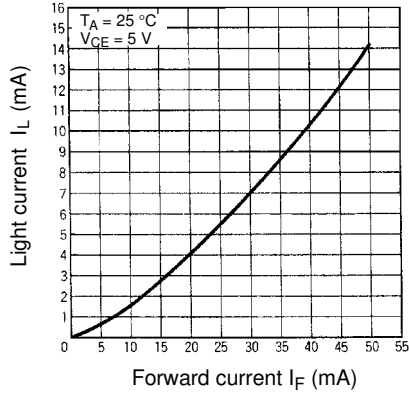


■ I/O CHARACTERISTIC (TYPICAL)

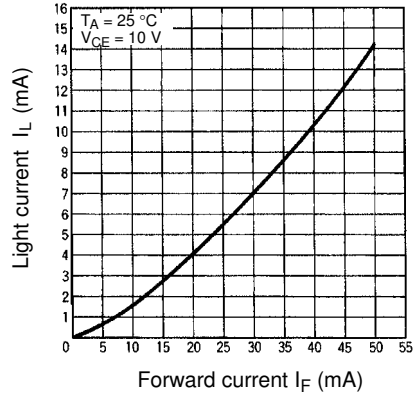
EE-SX1018/1025



EE-SX198/199

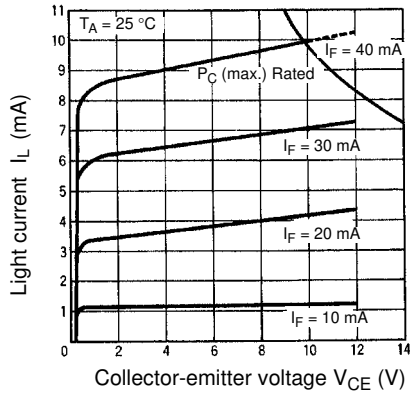


EE-SX1041/1042/1070/1071

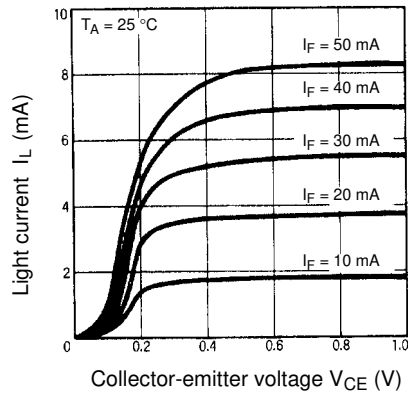


OUTPUT CHARACTERISTICS (TYPICAL)

EE-SX198/199/1041/1042/1070/1071

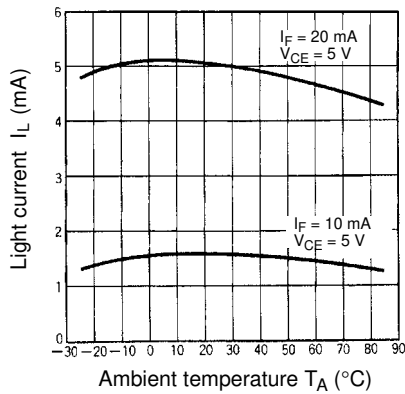


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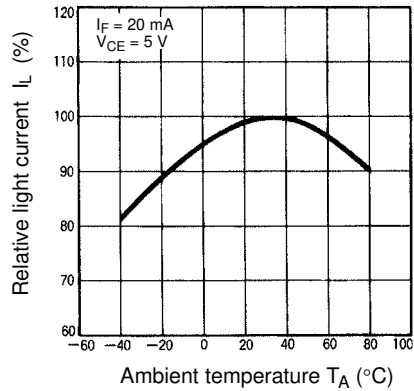


LIGHT CURRENT TEMPERATURE DEPENDENCY (TYPICAL)

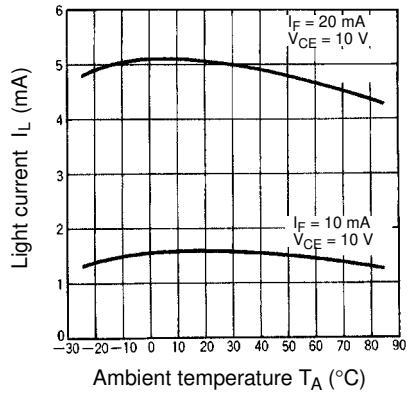
EE-SX198/199



EE-SX1018/1025

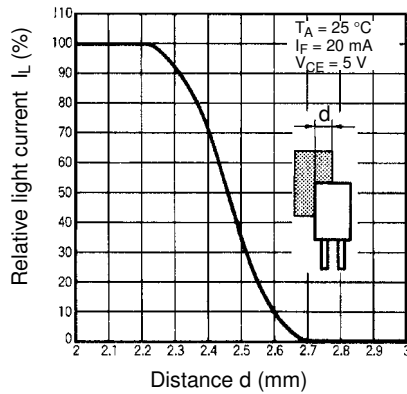


EE-SX1041/1042/1070/1071

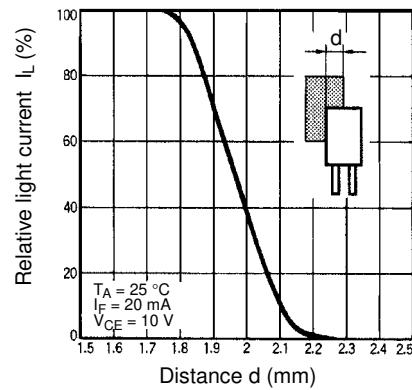


■ **SENSING POSITION CHARACTERISTICS (TYPICAL)**

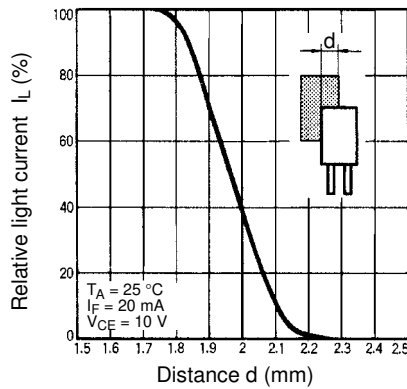
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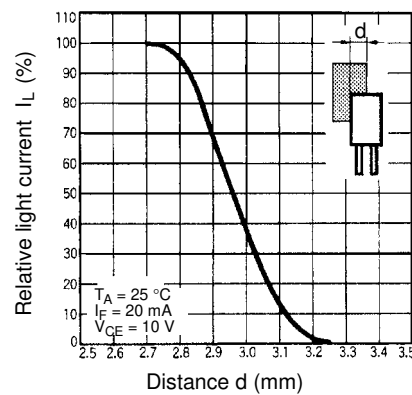
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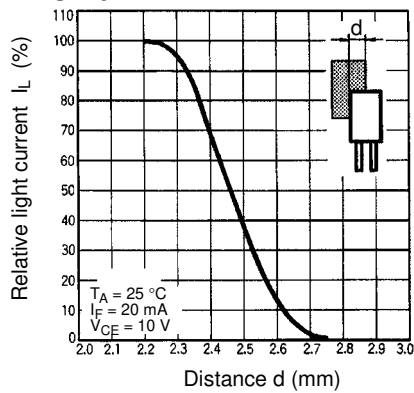
EE-SX1025



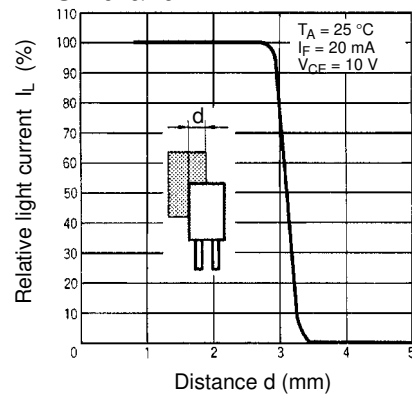
EE-SX1041



EE-SX1042



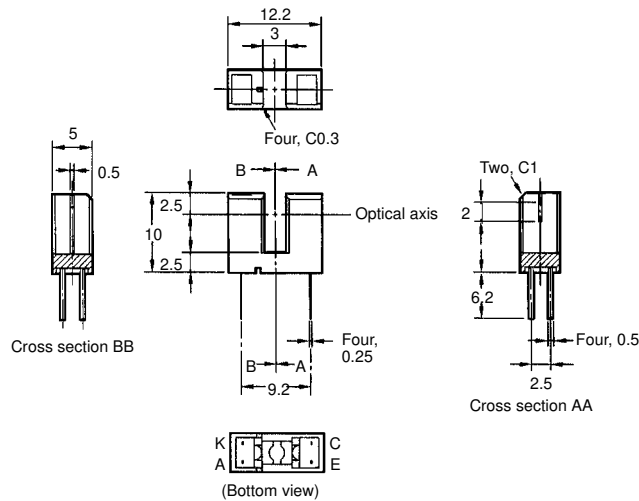
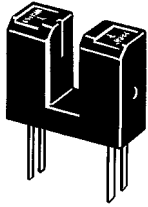
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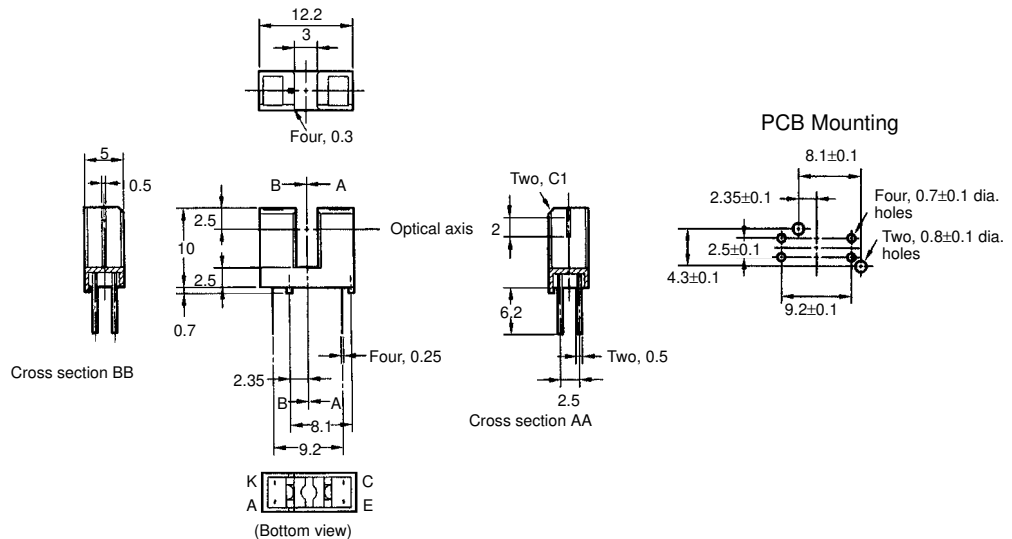
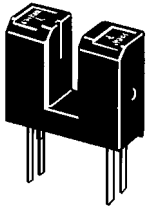
Dimensions

Unit: mm (inch)

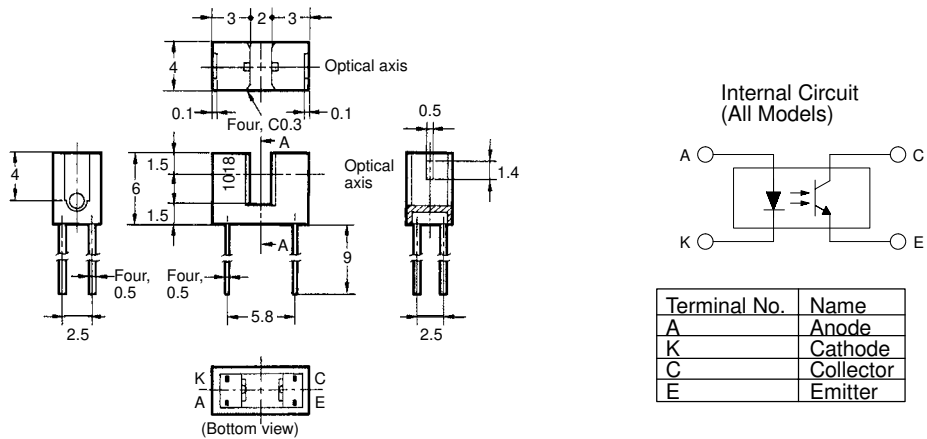
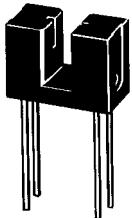
EE-SX198



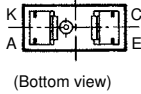
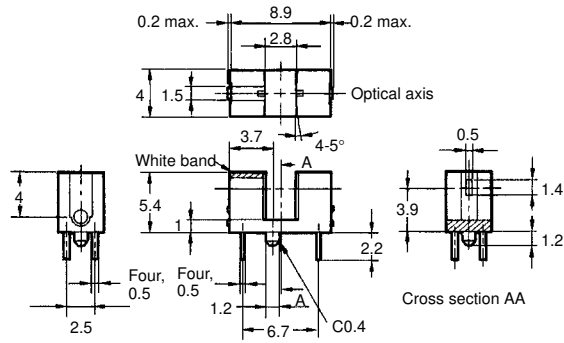
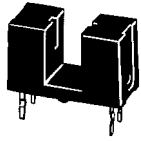
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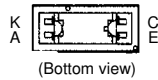
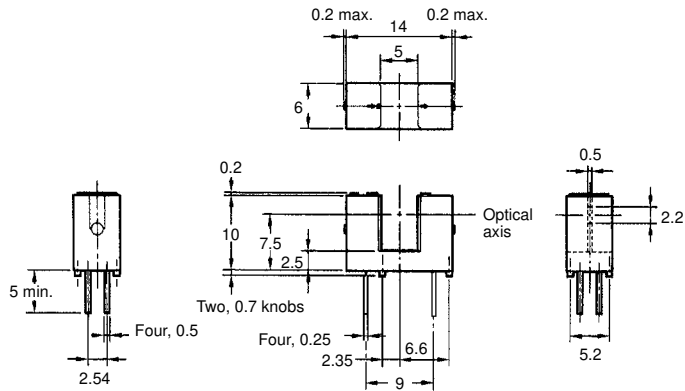
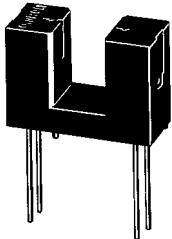
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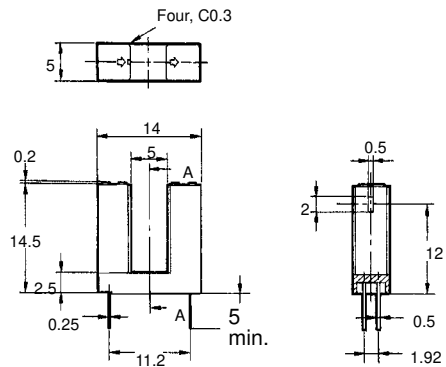
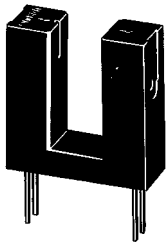
■ EE-SX1025



■ EE-SX1041



■ EE-SX1042



Cross section AA

