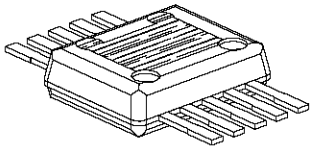
SGS-THOMSON MICROELECTRONICS

STV0705

PHOTO DETECTOR FOR DIGITAL VIDEO DISK

ADVANCE DATA

- LARGE BANDWIDTH AND LOW NOISE I/U AMPLIFIER
- SENSITIVITY SWITCHING FOR OPTICAL PICKUPS
- DETECTOR PATTERN ADAPTED FOR EFM SIGNAL DETECTION, FOCUS AND TRACKING CONTROLS



OPTOSOP10L
(Plastic Transparent Package)

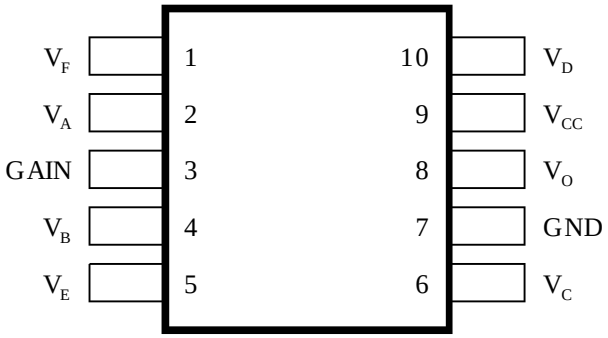
ORDER CODE : STV0705

DESCRIPTION

This six diodes photodetector includes six low noise I/V amplifiers with a sensitivity switching for adaptation to different optical pickups and disks.

The detector pattern is adaptable for astigmatism focus method, 3 beams tracking and differential phase detection methods.

PIN CONNECTIONS



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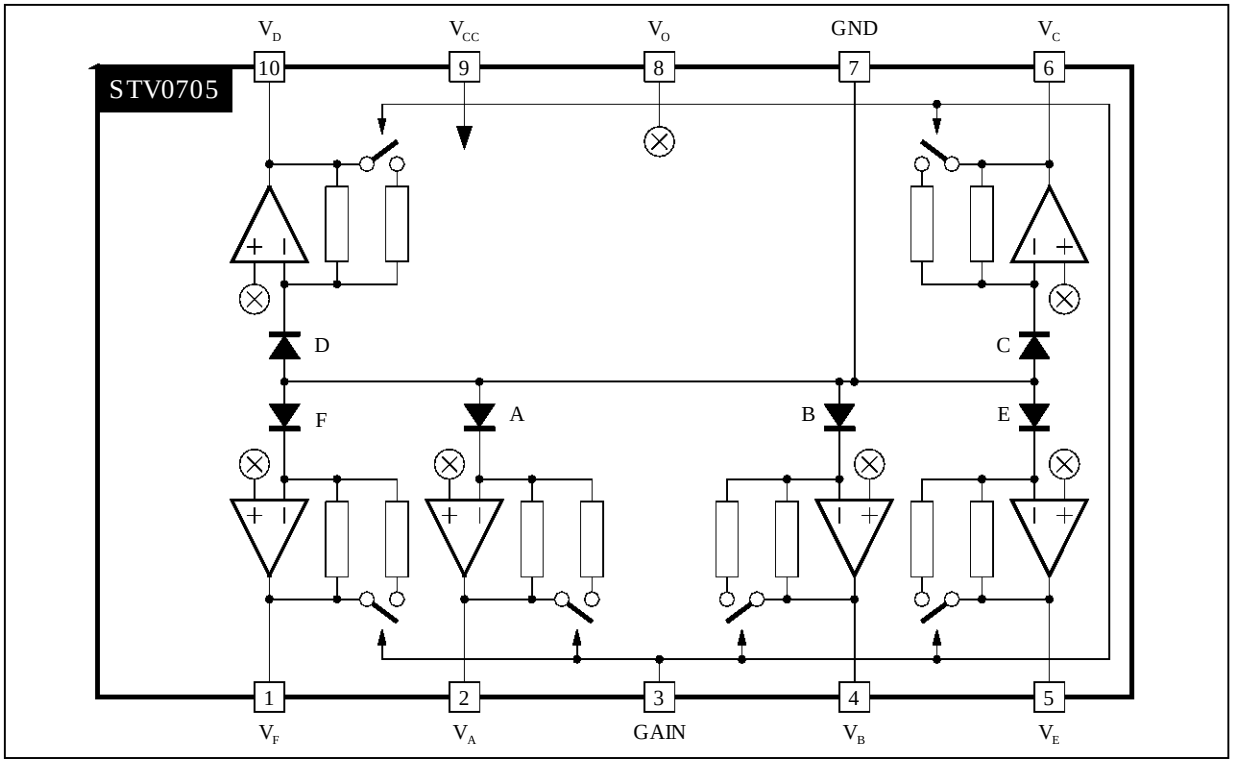
BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CC}	Power Supply Voltage	6	V
T_j	Junction Temperature	150	^oC
T_{oper}	Operating Temperature	- 20, +70	^oC

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THERMAL DATA

Symbol	Parameter		Value	Unit
$R_{th\ (j-a)}$	Junction-ambient Thermal Resistance	Max.	100	$^oC/W$

0705-02.TBL

RECOMMENDED OPERATING CHARACTERISTICS

Symbol	Parameter	Min.	Typ.	Max.	Unit
V_{CC}	Power Supply	4.75	5	5.25	V

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ELECTRICAL CHARACTERISTICS (T_{amb} = 25°C, unless otherwise specified)

V_{CC} = 5V, Light wavelength = 635 to 680nm
Light intensity (A, B, C, D) = 20 to 200µW
Light intensity (E, F) = 2 to 20µW

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
SADH SADL	Sensitivity A to D	Gain = H Gain = L		36 12		mV/µW mV/µW
SEFH SEFL	Sensitivity E, F	Gain = H Gain = L		60 20		mV/µW mV/µW
BWAD	Attenuation 17MHz A to D	Gain = H	- 3			dB
BWEF	Attenuation 5MHz E, F	Gain = H	- 3			dB
DV	Offset Voltage A to F	$V_O = V_{CC}/2$	- 15	0	15	mV
ENAD	Equivalent Noise Level A to D	10MHz, BW = 30kHz		- 90		dB
ENEF	Equivalent Noise Level E, F			- 90		dB

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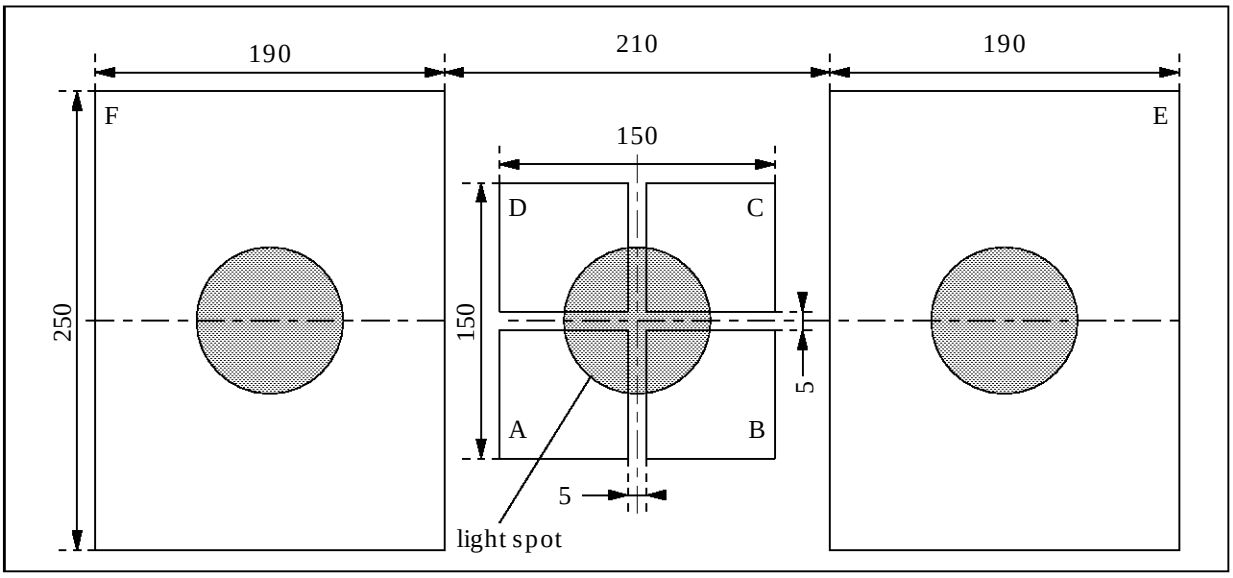
DETECTOR PATTERN DIMENSIONS (Position : Center of Package) (Unit : µm)



0705-03.EPS

PACKAGE MECHANICAL DATA

10 PINS - PLASTIC TRANSPARENT (OPTO)