

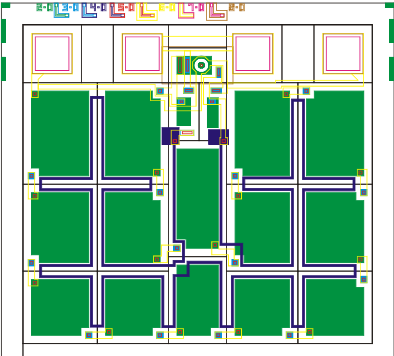
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"SYNTEC" Photovoltaic Chip for Solid-State Relays (B1)

Chip Topography	Features	General Description
	<p>Chip size: 1.25X1.35 mm, Chip thickness: 0.35±0.05 mm, Pad size: 0.2X 0.2 mm, Electrodes' structure: Aluminum Alloy.</p> <p>Pad 1,4: Positive Output, Pad 2,3: Negative Output.</p>	<p>"SYNTEC" Photovoltaic Chip B1 is a silicon bipolar monolithic IC with dielectrically isolated pockets. It contains 14 isolated photodiodes (photovoltaic diode array) which generate an open circuit voltage under the light and internal thyristor circuitry that can rapidly discharge the capacitive load when the light is deactivated.</p> <p>The layout of the photosensitive area provides an optimal coupling with planar situated infra-red LED.</p> <p>"SYNTEC" Photovoltaic Chip B1 is recommended for high side switching of MOSFETS in Solid - state relays, dc-motor control and switching regulator application.</p>

ELECTRICAL CHARACTERISTICS: (Ta = 25 °C, Light Intensity 10mW/cm², λ=880nm)

Parameter	Symbol	Units	Value			Test conditions
			Min.	Typ.	Max.	
Output Circuit Voltage	U _{OC}	V	6			Light ON, I _{SC} =0
Temperature Coefficient of Output Circuit Voltage	K _{TU}	mV/°C		-38		
Output Short Circuit Current	I _{SC}	μA	4			Light ON; U _{OC} = 0
Temperature Coefficient of Output Short Circuit Current	K _{TI}	μA/°C		-0,07		
Output Forward Voltage	U _F	V		0,4		Light OFF, I _{FC} =10 μA
Output Reverse Voltage	U _R	V		10		Light OFF, I _{RC} =10 μA
Turn-ON time	t _{ON}	ms		0,3	1,0	C _L =100 pF
Turn-OFF time	t _{OFF}	ms		0,2	1,0	C _L =100 pF

MAXIMUM RATINGS:

Maximum Current	
Forward OFF - Light Current	10,0 mA
Forward ON - Light Current	1,0 mA
Reverse OFF - Light Current	1,0 mA
Maximum Power Dissipation	
Total Dissipation at Ta=125°C	300mW
Maximum Temperature	
Storage Temperature	from -60°C to +150°C
Operating Temperature	from -55°C to +125°C
Bonding Temperature (5s)	260°C