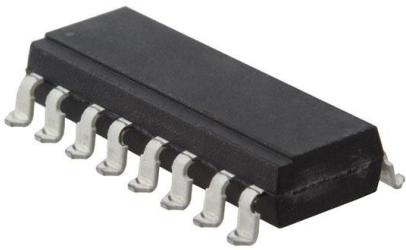


TIL196AXSM Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	TIL196AXSM-DG
Manufacturer	Isocom Components 2004 LTD
Manufacturer Product Number	TIL196AXSM
Description	16PIN AC INPUT, QUAD OPTOCOUPLER
Detailed Description	Optoisolator Transistor Output 7.5Vpk 4 Channel 16-SMD

This model TIL196AXSM is available at DiGi Electronics.

DiGi Electronics offers a global database of semiconductor and electronic component datasheets.

We welcome your inquiries regarding pricing, lead time, or other product-related questions.

 [Request a Quote](#)

 [Datasheet Search](#)



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

TIL196AXSM

Series:

TIL196

Number of Channels:

4

Current Transfer Ratio (Min):

50% @ 5mA

Turn On / Turn Off Time (Typ):

-

Input Type:

AC, DC

Voltage - Output (Max):

35V

Voltage - Forward (Vf) (Typ):

1.2V

Vce Saturation (Max):

400mV

Mounting Type:

Surface Mount

Supplier Device Package:

16-SMD

Manufacturer:

Isocom Components 2004 LTD

Product Status:

Active

Voltage - Isolation:

7.5Vpk

Current Transfer Ratio (Max):

-

Rise / Fall Time (Typ):

4µs, 3µs

Output Type:

Transistor

Current - Output / Channel:

-

Current - DC Forward (If) (Max):

50 mA

Operating Temperature:

-30°C ~ 100°C

Package / Case:

16-SMD, Gull Wing

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.49.8000

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

TIL194, TIL195, TIL196, TIL194X, TIL195X, TIL196X
TIL194A, TIL195A, TIL196A, TIL194AX, TIL195AX, TIL196AX
TIL194B, TIL195B, TIL196B, TIL194BX, TIL195BX, TIL196BX



**HIGH DENSITY A.C. INPUT
 PHOTOTRANSISTOR OPTICALLY
 COUPLED ISOLATORS**



APPROVALS

- UL recognised, File No. E91231
- 'X' SPECIFICATION APPROVALS
- VDE 0884 in 3 available lead form:
 - STD
 - G form
 - SMD approved to CECC 00802
- TIL194X/AX/BX Certified to EN60950 by the following Test Bodies :-
 - Nemko - Certificate No. P01102465
 - Fimko - Certificate No. FI18162
 - Semko - Reference No. 0202041/01-25
 - Demko - Certificate No. 311161-01
- TIL194X/AX/BX : BSI approved
 - Certificate No. 8001

DESCRIPTION

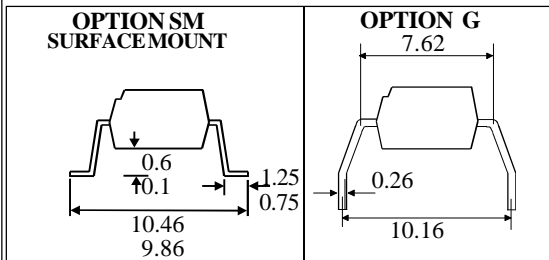
The TIL194, TIL195, TIL196 series of optically coupled isolators consist of two infrared light emitting diodes connected in inverse parallel and NPN silicon photo transistors in space efficient dual in line plastic packages.

FEATURES

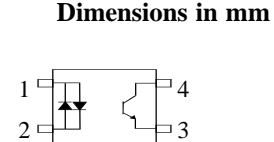
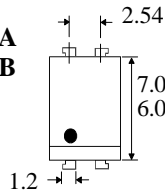
- Options :-
 - 10mm lead spread - add G after part no.
 - Surface mount - add SM after part no.
 - Tape & reel - add SMT & R after part no.
- High Isolation Voltage (5.3kV_{RMS}, 7.5kV_{PK})
- AC or polarity insensitive input
- All electrical parameters 100% tested
- Custom electrical selections available

APPLICATIONS

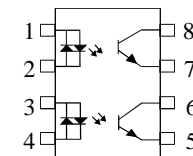
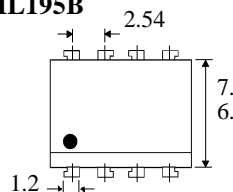
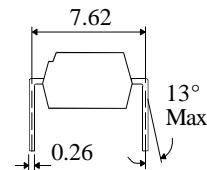
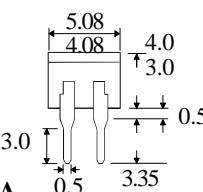
- Computer terminals
- Industrial systems controllers
- Telephone sets, Telephone exchangers
- Signal transmission between systems of different potentials and impedances



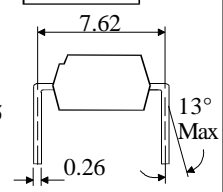
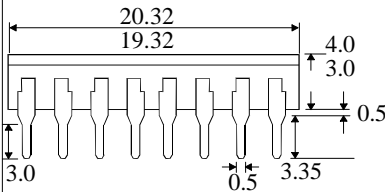
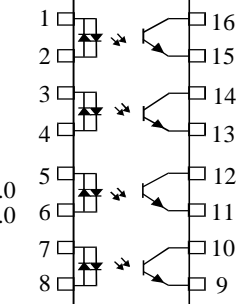
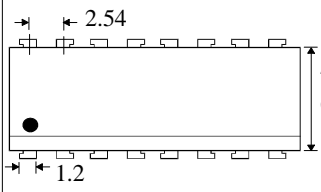
**TIL194
 TIL194A
 TIL194B**



**TIL195
 TIL195A
 TIL195B**



**TIL196
 TIL196A
 TIL196B**



ISOCOM COMPONENTS LTD
 Unit 25B, Park View Road West,
 Park View Industrial Estate, Brenda Road
 Hartlepool, Cleveland, TS25 1YD
 Tel: (01429) 863609 Fax :(01429) 863581

ABSOLUTE MAXIMUM RATINGS
(25°C unless otherwise specified)

Storage Temperature ——— -55°C to + 125°C
Operating Temperature ——— -30°C to +100°C
Lead Soldering Temperature
(1/16 inch (1.6mm) from case for 10 secs) 260°C

INPUT DIODE

Forward Current ——— ± 50mA
Power Dissipation ——— 70mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO} ——— 35V
Emitter-collector Voltage BV_{ECO} ——— 6V
Power Dissipation ——— 150mW

POWER DISSIPATION

Total Power Dissipation ——— 200mW
(derate linearly 2.67mW/°C above 25°C)

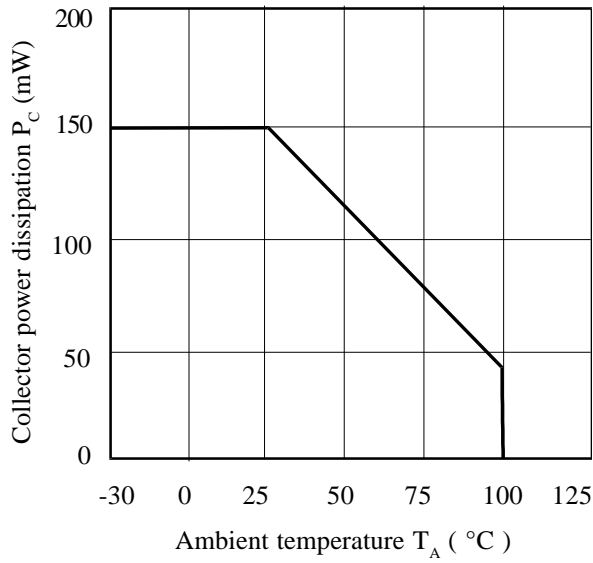
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.4	V	$I_F = \pm 20\text{mA}$
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 2)	35			V	$I_C = 0.5\text{mA}$
	Emitter-collector Breakdown (BV_{ECO})	6			V	$I_E = 100\mu\text{A}$
	Collector-emitter Dark Current (I_{CEO})			100	nA	$V_{CE} = 20\text{V}$
Coupled	Current Transfer Ratio (CTR) (Note 2) TIL194, TIL195, TIL196	20			%	$\pm 5\text{mA}I_F, 5\text{V } V_{CE}$
	TIL194A, TIL195A, TIL196A	50			%	
	TIL194B, TIL195B, TIL196B	100			%	
	Collector-Emitter Saturation Voltage $V_{CE(SAT)}$			0.4	V	$\pm 5\text{mA}I_F, 1\text{mA}I_C$
	Input to Output Isolation Voltage V_{ISO}	5300 7500			V_{RMS} V_{PK}	See note 1 See note 1
	Input-output Isolation Resistance R_{ISO}	5×10^{10}			Ω	$V_{IO} = 500\text{V}$ (note 1)
	Response Time (Rise), tr		4		μs	$V_{CE} = 2\text{V},$ $I_C = 2\text{mA}, R_L = 100\Omega$
Response Time (Fall), tf		3		μs		

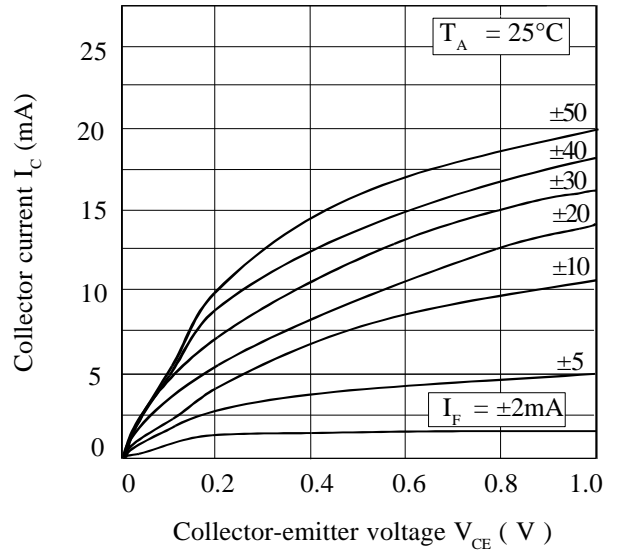
Note 1 Measured with input leads shorted together and output leads shorted together.

Note 2 Special Selections are available on request. Please consult the factory.

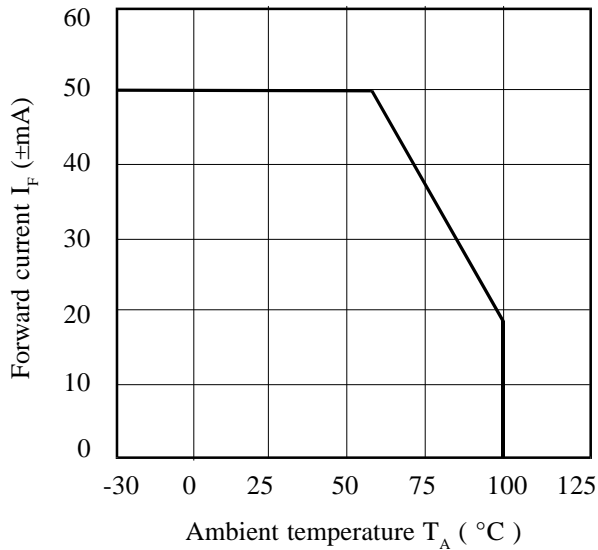
Collector Power Dissipation vs. Ambient Temperature



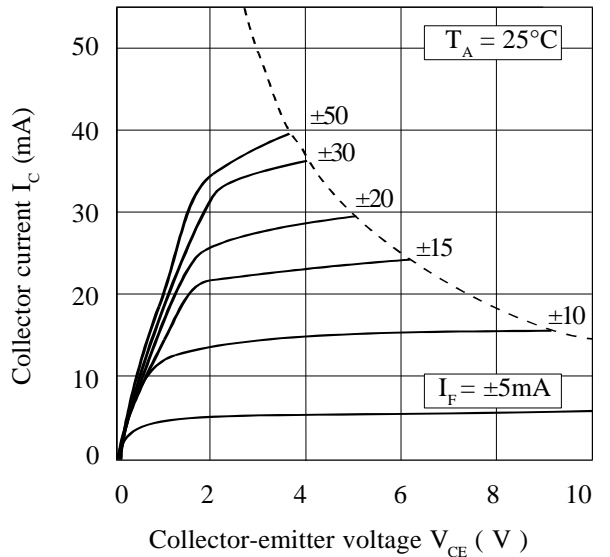
Collector Current vs. Low Collector-emitter Voltage



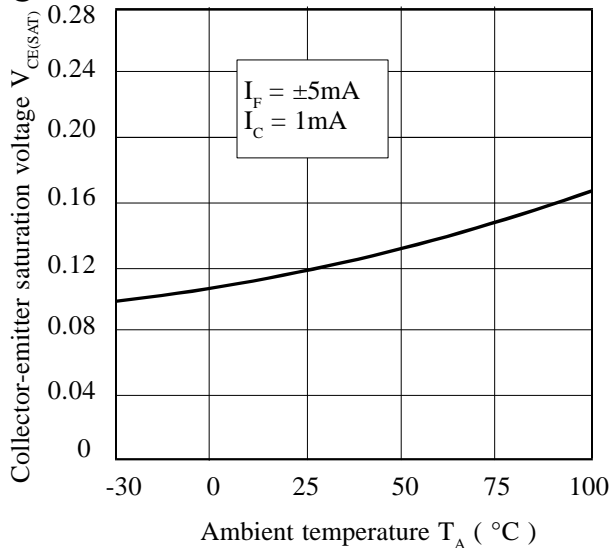
Forward Current vs. Ambient Temperature



Collector Current vs. Collector-emitter Voltage



Collector-emitter Saturation Voltage vs. Ambient Temperature



Current Transfer Ratio vs. Forward Current

