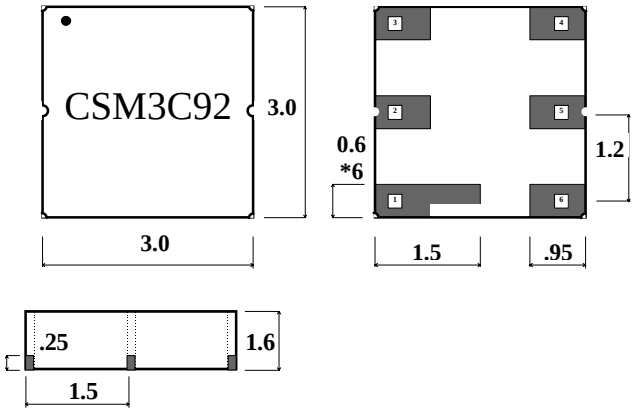
ISOCOM LTD

CSM 3C92

Small Outline Surface Mount Optocoupler Transistor Output Device



Isocom Ltd supplies high reliability devices for applications requiring an operating temperature range of -55°C to +125°C (e.g. military applications).

Devices supplied are approved to BS9400, and have completed rigorous testing. Various high reliability test options are offered.

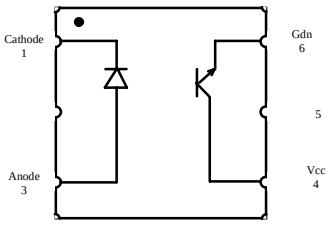
As a manufacturer of high reliability optocouplers, the Isocom Ltd manufacturing plant in the North East of England has site approval to BS9OOO (registration number 1294/M) and CECC2OOOO (registration number M/1084/CECC/UK) issued by the British Standards Institution.

Together with CECC, BS9OOO is a preferred standard for use in European military projects. Consequently, Isocom Ltd's approved devices are listed in the CECC "MUAHAG" preferred products list.

The BS9000 approval is also recognised as meeting the equivalent criteria to those required by BS5750/IS09000/EN29000.

The Company's customers can be assured of our commitment to stringent quality, reliability and inspection standards, as demonstrated by our existing approvals. Other customer specific options can also be offered.

Features	Applications
Hermetically sealed 6 pad assembly leadless chip carrier Replacement for 3C92	High density surface mount
High Radiance LED	Military high rel. systems
Silicon phototransistor	Switch mode power supplies
Suitable for hybrid sub assembly mounting	Medical instruments
High radiation immunity	System test equipment
Low input current	Signal transmission between circuit of different potential and impedance



Description

The CSM3C92 is a single channel device in a small outline package suitable for mounting in surface mount assemblies. The device incorporates a high radiance LED and silicon phototransistor. The isolator operational parameters are guaranteed from -55°C to +125°C.

Absolute Maximum Ratings

Storage temperature ..... -65°C to +150°C
Operating temperature ..... -55°C to +125°C
Input-to-output isolation voltage ..... ±1500V DC

Input Diode

Forward DC current 50mA
Reverse DC voltage 7V
Peak forward current 1.5A
(t= 10µs duration)
Power Dissipation 150mW

Output Transistor

Collector-emitter voltage Bv_{ceo} 40V
Emitter-collector voltage Bv_{eco} 7V
Collector current 20mA
Collector current (t = 1ms) 100mA
Power Dissipation 100mW
(derate linearly above 100°C at 1.4mW/°C)

Electrical Characteristics

(T_A = -55 to 125°C U.O.S) *All typical values at T_A = 25°C

parameter	symbol	Test Conditions	min	*typ	max	Units
Forward voltage	V_F	I_F=10mA	0.7	1.2	1.5	V
		I_F=10mA T_A=125°C	0.7	1.10	1.3	V
		I_F=10mA T_A=-55°C	0.7	1.3	1.6	V
Reverse Current	I_R	V_R=3.0V	-	10		µA
Collector-emitter breakdown voltage	BV_{CEO}	I_C =1mA	40		-	V
Emitter-collector breakdown voltage	BV_{ECO}	I_E=100µA	7			V
Collector-emitter leakage current	I_{CEO}	V_{CE}=20V, I_F=0		7	100	nA
Collector-emitter leakage current	I_{CEO}	V_{CE}=20V, I_F=0, T_A=125°C		10	100	nA
DC current transfer ratio	C.T.R	I_F=10mA,V_{CE}=5V	50		-	%
DC current transfer ratio	C.T.R	I_F=10mA,V_{CE}=5V, T_A=125°C	25			%
DC current transfer ratio	C.T.R	I_F=10mA,V_{CE}=5V, T_A=-55°C	35			%
Collector-emitter saturation voltage	V_{CE} (SAT)	IF=10mA, Ic=2.5mA			0.3	V
Input to output resistance	R_{VO}	$V_{I/O}$=500V		10^{11}		
Isolation voltage	V_{VO}		1500			DC
Turn-on time	t_{on}	R_L=1KΩ, I_F=5mA		9	20	µS
Turn-off time	t_{off}	V_{CC}=5V		24	60	µS