ISOCOM LIMITED

PART NUMBER CSM1200

COMPONENT SPECIFICATION ISSUE 7

Component Specification For Ceramic Hermetically Sealed, Radiation Hard Transistor Optocoupler

Features

- Radiation Tolerance tested to 150 Krad(si)
- Hermetically Sealed
- High Isolation up to 1,000V_{DC}
- LCC-6
- Low input requirements
- High Current Transfer Ratio

Applications

- Space Equipment and Systems
- Military and Hi-reliability Systems
- Medical Instruments
- MOS/CMOS Applications
- Logic Interfacing
- Data Transmission
- Power Supply
- Modems

DESCRIPTION

This device is a single channel, hermetically sealed optically coupled isolator. It is composed of a Gallium Arsenide infrared emitting diode and a silicon phototransistor.

The CSM1200 series is being used in environments encountered by space applications. Package styles for this device include an LCC-6 package, with solder dip option available.

Absolute maximum ratings, recommended operating conditions, electrical specifications and performance characteristics are identical for all units. Any exceptions, due to packaging variations and limitations, are as noted.

ISOCOM Limited is AS9100 certified for the design and manufacture of electronic and optoelectronic components.

For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

STANDARDS

The following specifications have been included in the manufacturing of this product:

Aerospace Compliance Standards

AS9100D / ISO 9001:2015 – Design & Manufacture of Electronic and Optoelectronic Components *(Ref GB15/92780)*

Military Compliance Specifications

MIL-PRF-38534 – General Specification for Hybrid Microcircuits
MIL-PRF-19500 – General Specification for Discrete Semiconductor Devices

Military Compliance Standards

MIL-STD-202 – Test Method Standard Electronic and Electrical Component Parts
MIL-STD-883 – Test Method Standard Microcircuits
MIL-STD-750 – Test Method Standard for Semiconductor Devices.

LOT DEFINITIONS

The Assembly Lot is a quantity of components that are manufactured with semiconductor dice out of one diffusion lot, with a piece part out of one piece part lot, using the basic raw material out of one raw material lot and an interrupted period of time to the end of the production tests which includes the same process, specifications and procedures using the same equipment and personal on the same design, construction and geometry.

SCREENING INFORMATION

Our products can be screened to MIL-PRF-38534, applying test methods from MIL-STD-883; MIL-PRF-19500, applying test methods of MIL-STD-750; or a combination thereof. Please contact us for more information relating to the applicable screening processes.

AMENDMENT RECORD

Issue No.	Date	Description
1	August 2013	First issue
2	May 2019	Updated ‘Standards’ section, Screening and Group Test Information removed.
3	September 2020	Updated Quality Management Logos and removed IECQ Logos
4	May 2022	Added Radiation Testing and Electrical Testing Diagrams, Updated Format, Added Render
5	June 2022	Updated Electrical Characteristics Graphs and Added Screening Flows
6	August 2022	Updated Formatting
7	August 2023	Added pin configuration, updated screening, updated circuit drawings and device marking.

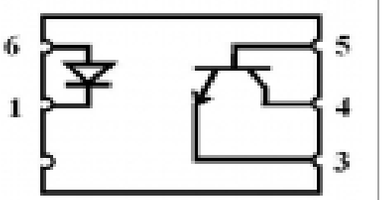
For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

SELECTION GUIDE PACKAGE STYLES AND CONFIGURATION OPTIONS

ISOCOM Part Number and Options	
Package	LCC-6
Lead Style	–
Channels	1
Common Channel Wiring	–
Commercial	CSM1200
Defense Screen Level	CSM1200/L2
Space Screen Level	CSM1200/L2S
Standard Finish	Gold Plating
Butt Joint	–
Solder Dipped	Option 20
Gull Wing	–
Butt Joint	–

FUNCTIONAL DIAGRAMS

CSM1200
LCC-6
1 Channel


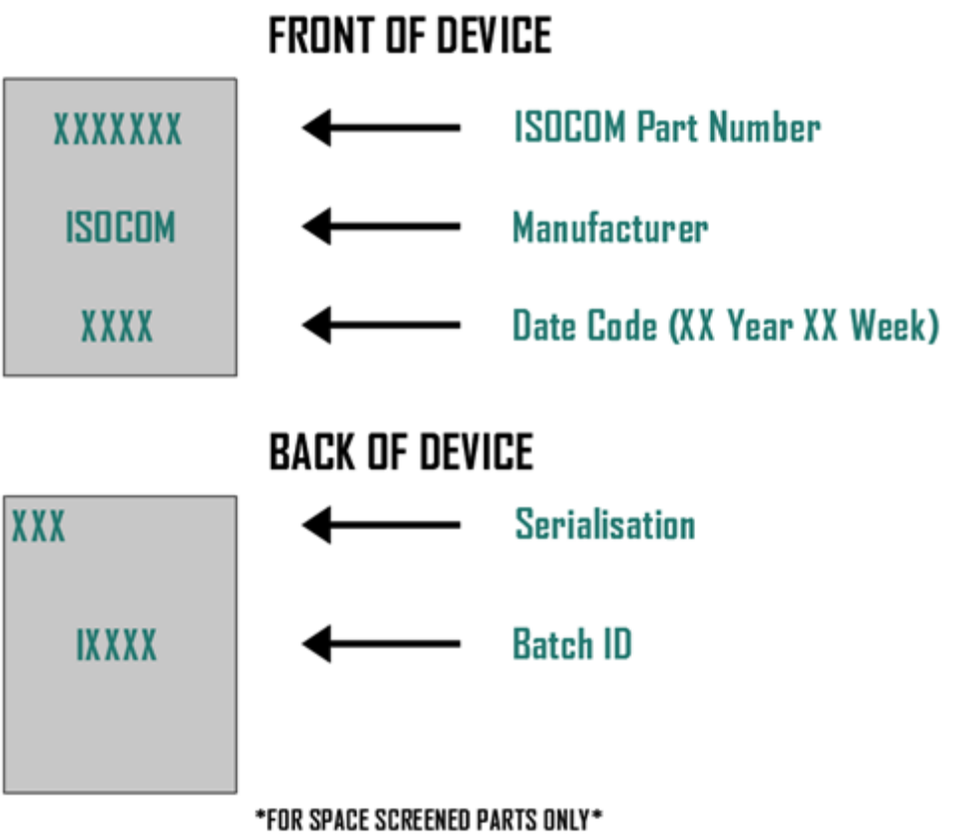
PIN OUT

Pin number	Function
1	Cathode
2	NC
3	Emitter
4	Collector
5	Base
6	Anode

For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

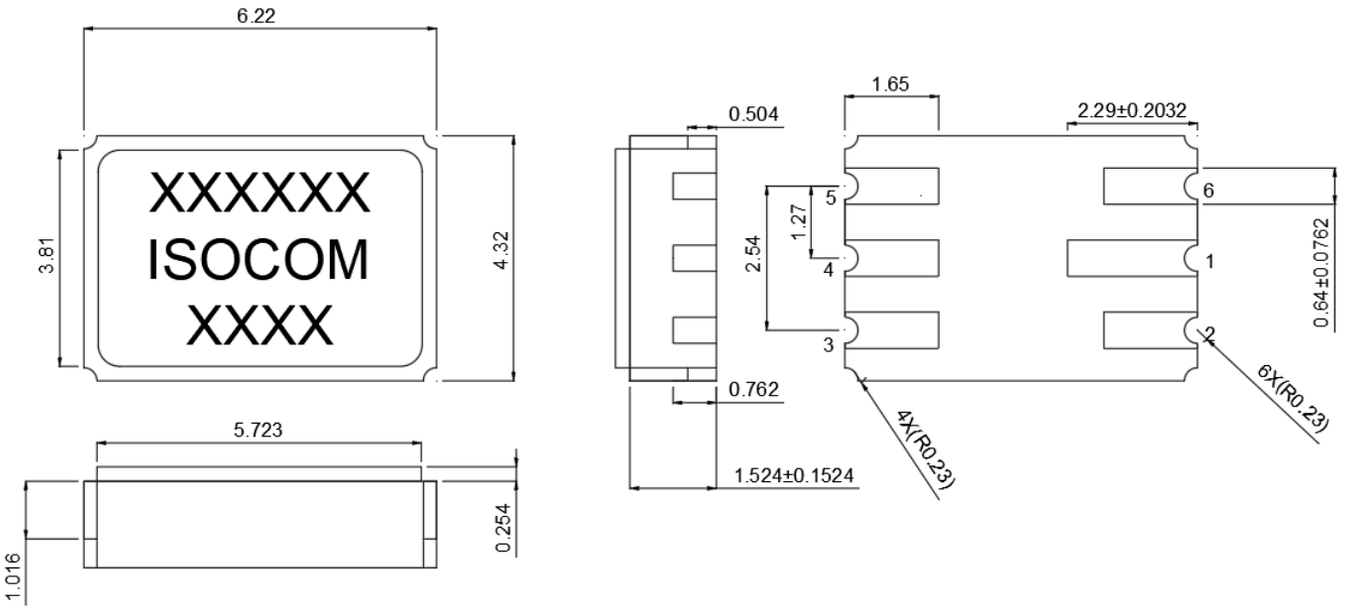
DEVICE MARKING



For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

OUTLINE DRAWINGS



ABSOLUTE MAXIMUM RATINGS

T_A = 25°C U.O.S.

Storage Temperature	-65°C to +150°C
Operating Temperature	-55°C to +125°C
Lead Soldering Temperature	260°C 1.6mm from case for 10s
Input-to-Output Isolation Voltage	⇧1,000V_{DC}

Input Diode

Average Forward Current	50mA	
Reverse Voltage	7V	
Peak forward Current	1.5A	≤1µs
Power Dissipation	100mW	Derate linearly 1.6mW/ºC above 100ºC

Output Transistor

Supply Voltage	0.5V to 20V	
Average Current	8mA	
Collector Current	50mA	
Power Dissipation	150mW	

For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

ELECTRICAL CHARACTERISTICS

T_A = -55°C - 125°C U.O.S.

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Input Diode Electrical Characteristics						
Forward Voltage	V_F	I_F = 10mA	0.7	1.2	1.8	V
Reverse Current	I_R	V_R = 3.0V	-	-	100	µA
Output Detector Electrical Characteristics						
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 0.1mA	70	100	-	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_B = 100µA	70	200	-	V
Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	I_E = 0.1mA	7	9	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_B = 1mA	5	-	-	V
Collector–Emitter Leakage Current	I_{CEO}	V_{CE} = 20V, I_F = 0A	-	7	100	µA
Coupled Electrical Characteristics						
DC Current Transfer Ratio (Pre-Radiation)	I_C/I_F	I_F = 1.0mA, V_{CE} = 1V	200	-	-	%
		I_F = 3.0mA, V_{CE} = 1V	200	-	-	%
		I_F = 15.0mA, V_{CE} = 1V	100	-	-	%
		I_F = 10.0mA, V_{CE} = 5V	350	-	-	%
		I_F = 15.0mA, V_{CE} = 5V	100	-	-	%
		I_F = 1.0mA, V_{CE} = 15V	300			%
Collector-Emitter Saturation Voltage	$V_{CE(Sat)}$	I_C = 10.0 mA I_F = 20 mA	-	-	0.22	V
Isolation Voltage (1)	V in-out	T = 5s	1,500	-	-	V_{DC}
Input to Output Resistance (1)	R in-out	V_{IO} = 500V	-	10^{11}		Ω
Rise Time	t_r	R_L = 100Ω, V_{CC} = 10V, I_F = 10mA	-	6	12	µs
Fall Time	t_f	R_L = 100Ω, V_{CC} = 10V, I_F = 10mA	-	6	12	µs
Propagation Delay – H-L	t_{PHL}	R_L = 100Ω, V_{CC} = 10V, I_F = 10mA	-	-	5.0	µs
Propagation Delay – L-H	t_{PLH}	R_L = 100Ω, V_{CC} = 10V, I_F = 10mA	-	-	5.0	µs
DC Current Transfer Ratio (Post-Radiation)	I_C/I_F	I_F = 1.0mA, V_{CE} = 1V	200	-	-	%
		I_F = 3.0mA, V_{CE} = 1V	100	-	-	%
		I_F = 15.0mA, V_{CE} = 1V	66	-	-	%
		I_F = 10.0mA, V_{CE} = 5V	160	-	-	%
		I_F = 15.0mA, V_{CE} = 5V	40	-	-	%
		I_F = 1.0mA, V_{CE} = 15V	250	-	-	%

Notes:

1. Measurements with inputs shorted together and outputs shorted together.

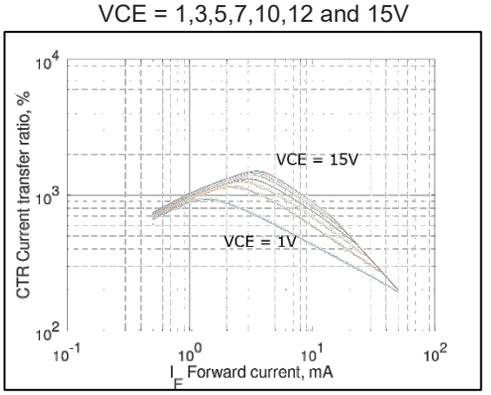
For sales enquiries, or further information, please contact our sales office at:

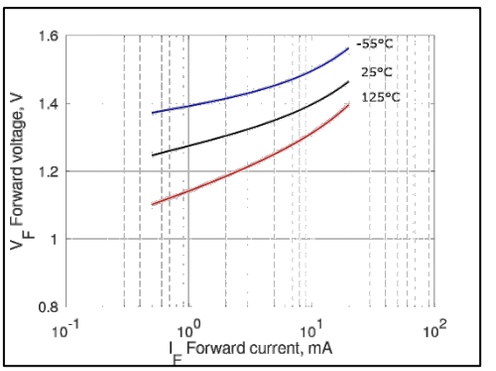
ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

ELECTRICAL CHARACTERISTICS

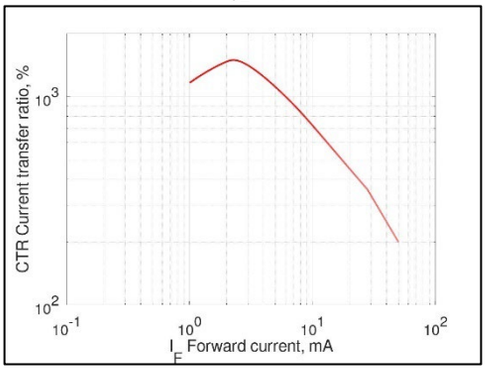
Typical Graphs – Contact Office for more information

VCE = 1,3,5,7,10,12 and 15V

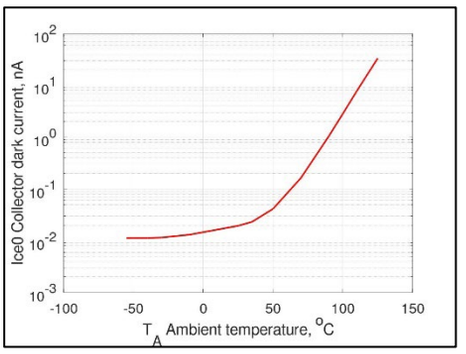




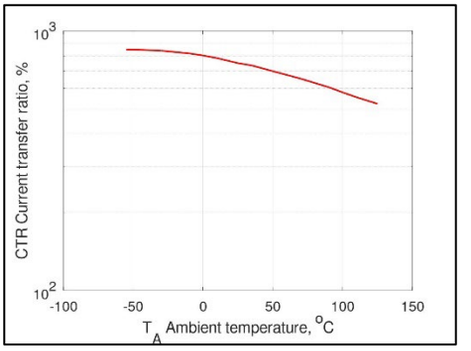
CTR vs I_F: V_{CE} = 5V T_A = 25°C



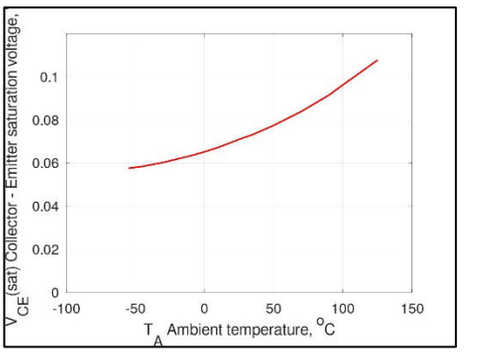
Iceo vs T_A: V_{CE} = 20V



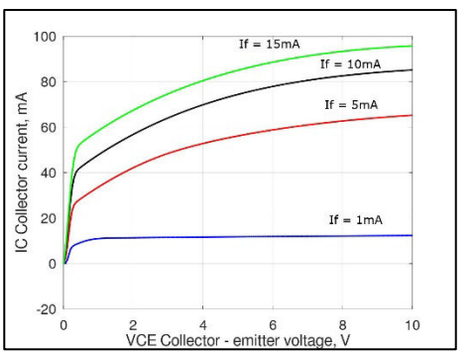
CTR vs T_A: If = 10mA VCE = 5V



$V_{CE(sat)}$ vs T_A: If = 20mA IC = 10mA



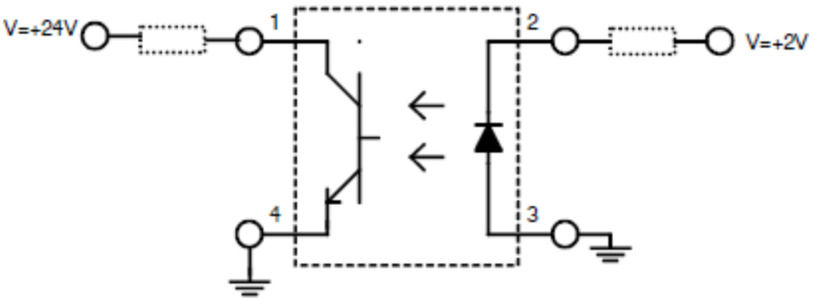
I_C vs V_{CE}: T_A = 25°C



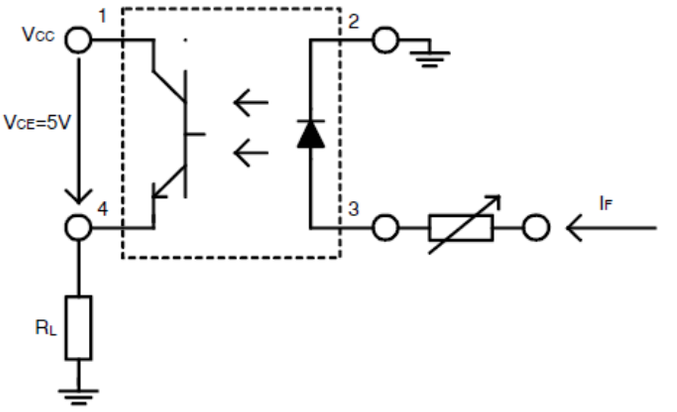
For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

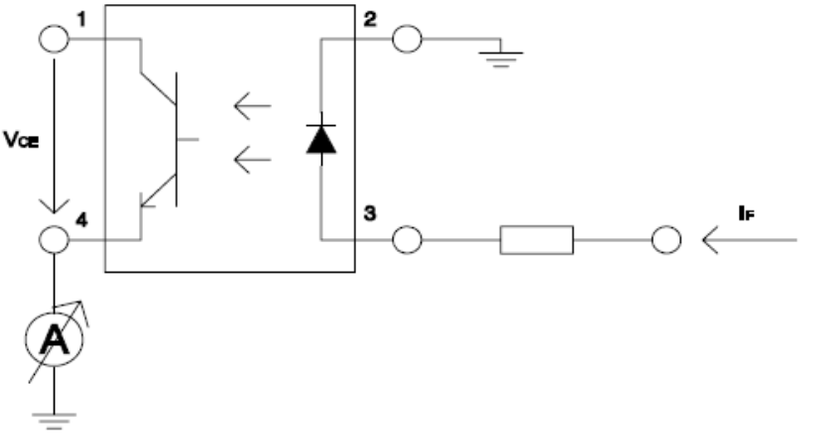
HTRB TEST CIRCUIT



ELECTRICAL CIRCUIT FOR BURN-IN AND OPERATING LIFE TESTS



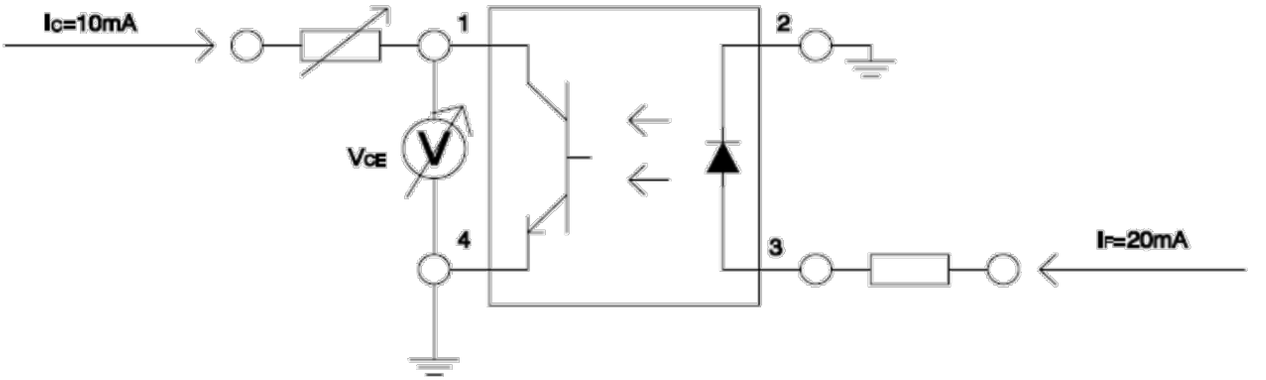
ELECTRICAL MEASUREMENT OF COLLECTOR CURRENT



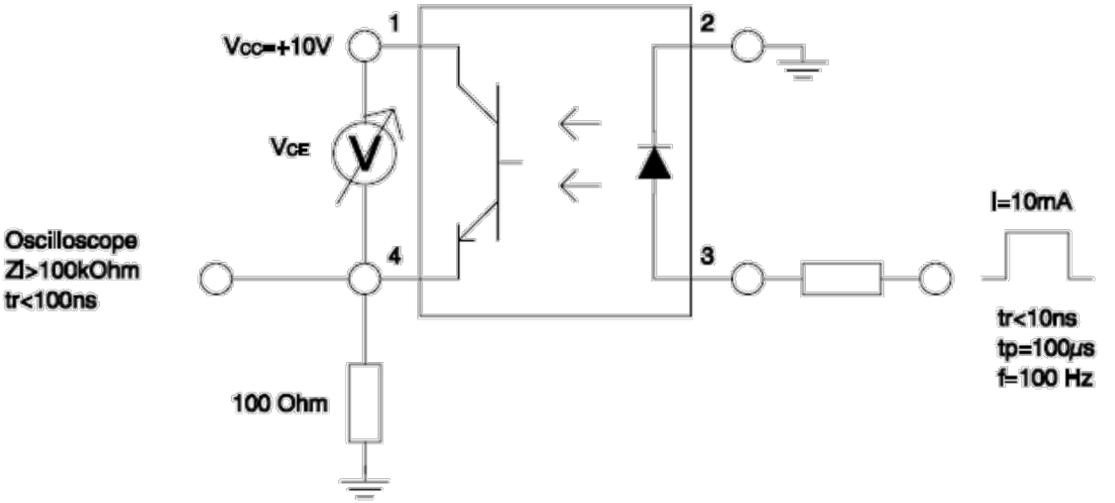
For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

ELECTRICAL MEASUREMENT OF COLLECTOR EMITTER SATURATION VOLTAGE



ELECTRICAL MEASUREMENT OF A.C PARAMETERS



For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

SWITCHING TIME

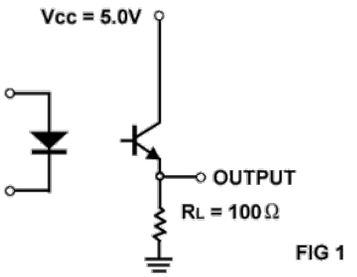
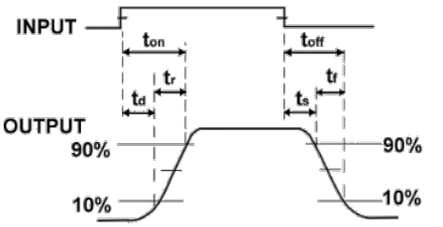


FIG 1



Input waveform is supplied by a generator with the following characteristics:
Zo = 50Ω
tr.tf < 10ns

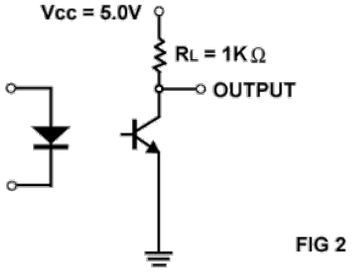
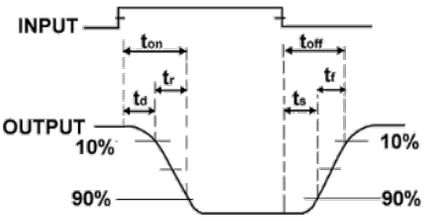
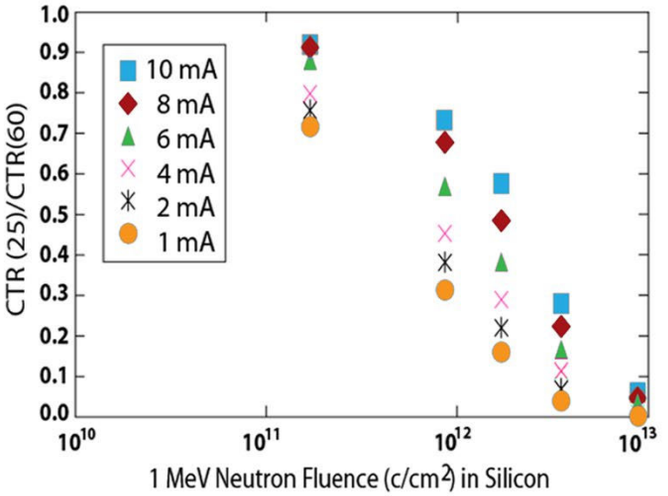
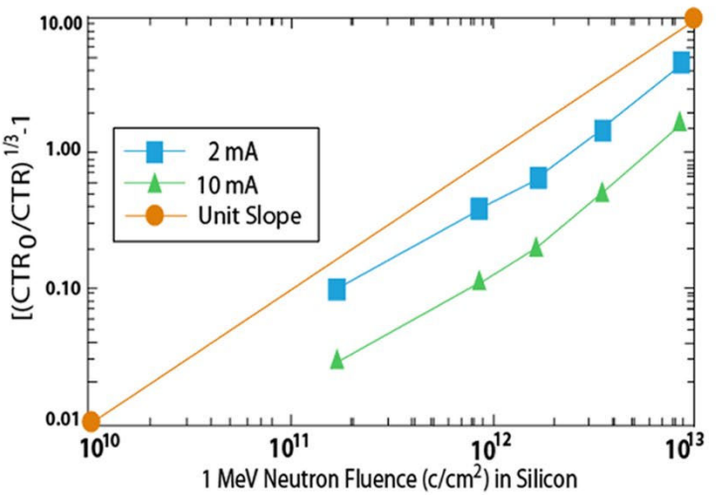


FIG 2



RADIATION TESTING

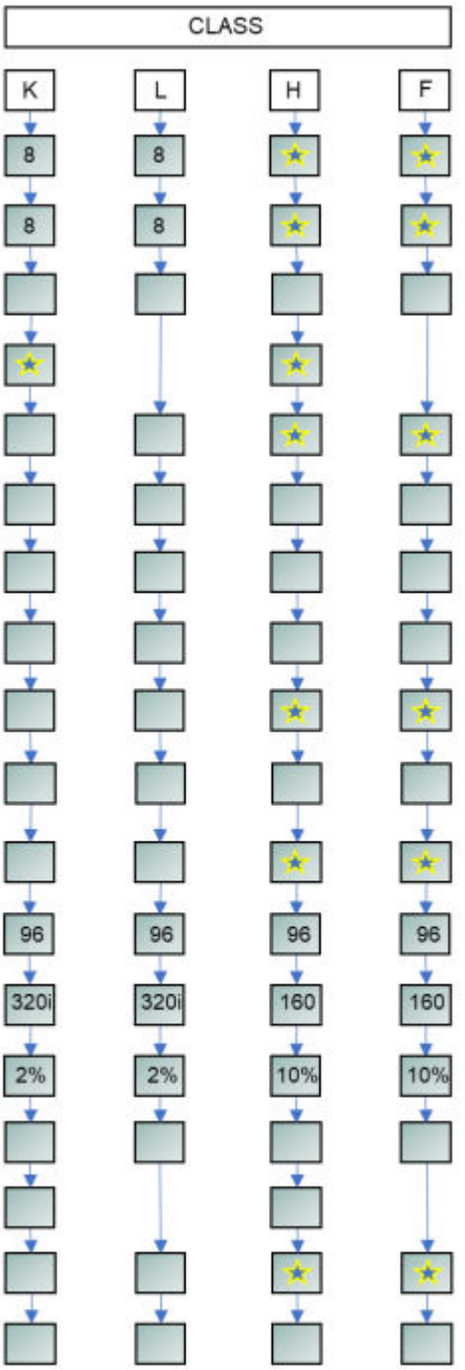




For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

SCREENING IN ACCORDANCE WITH MIL-PRF 38534



WIRE BOND STRENGTH TEST
(DESTRUCTIVE SAMPLE BASIS, NON-DESTRUCTIVE 100% FOR SPACE)

DIE SHEAR TEST
(DESTRUCTIVE SAMPLE BASIS)

INTERNAL (PRE-CAP) VISUAL INSPECTION 100%

HERMETIC SEAL TEST (FINE & GROSS)

SERIALISATION

INITIAL DC TESTS @ 25°C

TEMPERATURE CYCLE 10 CYCLES @ -65 °C to 150°C

ACCELERATION 5000g Y1

PIND TEST

ISOLATION TEST @ 25°C

DC TEST PRE-BURN-IN @ 25°C, 125°C, -55°C AND SWITCHING

HTRB @125 °C

BURN-IN @125°C

PERCENTAGE DEFECTIVE ALLOWED – CLASS
K/L BASED ON SECOND HALF OF B.I ONLY

DC TEST POST-BURN-IN @ 25°C, 125°C, -55°C AND SWITCHING

HERMETIC SEAL TEST (FINE & GROSS)

RADIOGRAPHY

EXTERNAL VISUAL INSPECTION 100%

★ = OPTIONAL

i = INTERIM, E.G. 2 x 160 HOUR BURN-IN

For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

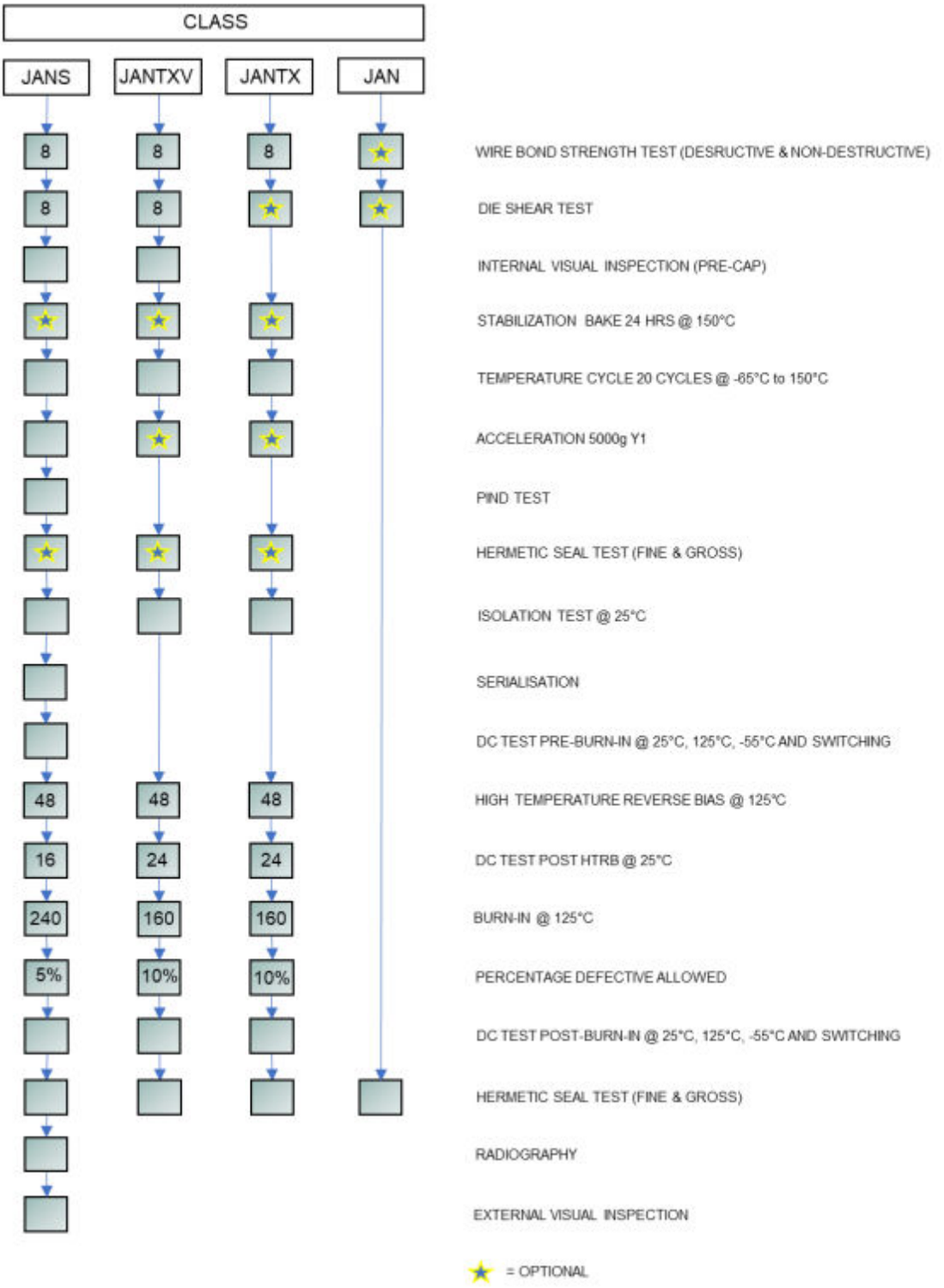
The following screening flow includes the electrical tests between each screening step, the referenced test method from MIL-STD 883 and the sample basis for Class K/L and H/F quality levels.

Operation No.	Operation	MIL-STD 883 TEST METHOD	Class	
			H/F (L2)	K/L (L2S)
1	Wire bond strength (ND)	(883) 2023	Optional	100%
2	Wire bond strength (D)	(883) 2011	Optional	8 devices
3	Die Shear	(883) 2019	Optional	8 devices
4	Internal Visual	(883) 2017	100%	100%
5	Fine leak, Helium bomb, Leak detector	(883) 1014, Con A1	Optional	Optional
6	Gross leak, Liquid bomb, -Bubble chamber	(883) 1014, Con C1	Optional	Optional
7	Serialisation of devices		Optional	100%
8	Electrical Test 25°C		100%	100%
9	Temp cycle @ -65°C to 150°C	(883) 1010, Con C, 10 cycles	100%	100%
10	Electrical Test 25°C		100%	100%
11	Constant acceleration	(883) 2001, 3000g, Y1	100%	100%
12	Electrical Test 25°C		100%	100%
13	P.I.N.D	(883) 2020, Con A	Optional	100%
14	Electrical Test 25°C		100%	100%
15	Isolation 100% @ 25°C	(MIL-STD 202) 301	100%	100%
16	Electrical Test 25°C		100%	100%
17	Electrical Test 125°C		Optional	100%
18	Electrical Test -55°C		Optional	100%
19	Switching time 100% @ 25°C		Optional	100%
20	HTRB @ 125°C - 96 hrs	(883) 1015, con A	100%	100%
21	Electrical Test 25°C		100%	100%
22	Burn in @ 125°C	(883) 1015, con B	100% 160 hours	100% 160 hrs
23	Electrical Test 25°C		100%	100%
24	Burn in @ 125°C	(883) 1015, con B	N/A	100% 160 hrs
25	Percentage defective allowable	Pre/post Burn-in electrical and delta at 25°C only	Max. 10%	Max. 2%
26	Electrical Test 25°C	Group A - SG1	100%	100%
27	Electrical Test 125°C	Group A - SG2	100%	100%
28	Electrical Test -55°C	Group A - SG3	100%	100%
29	Switching time 100% @ 25°C	Group A - SG9	100%	100%
30	Fine leak, Helium bomb, Leak detector	(883) 1014, Con A1	100%	100%
31	Gross leak, Liquid bomb, -Bubble chamber	(883) 1014, Con C1	100%	100%
32	Radiography	(883) 2012	Optional	100%
33	External Visual	(883) 2009	100%	100%

For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

SCREENING IN ACCORDANCE WITH MIL-PRF 19500



For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

The following screening flow includes the electrical tests between each screening step, the referenced test method from MIL-STD 750 and the sample basis for Class JANTX, JANTXV and JANS quality levels.

Operation No.	Operation	MIL-PRF 19500	Class		
			JANTX (L2)	JANTXV (L2)	JANS (L2S)
1	Wire bond strength (ND)	(883) 2023	100%	100%	100%
2	Wire bond strength (D)	(750) 2037, Con D	4 devices	4 devices	8 devices
3	Die Shear	(750) 2017	4 devices	4 devices	8 devices
4	Internal Visual	(750) 2072	Optional	100%	100%
5	Stabilization Bake		Optional	Optional	Optional
6	Electrical Test @ 25°C		100%	100%	100%
7	Temp cycle (20 cycles @ -65°C to 150°C)	(750) 1051, Con F	100%	100%	100%
8	Electrical Test @ 25°C		100%	100%	100%
9	Constant acceleration	(750) 2006, 5000g, Y1	Optional	Optional	100%
10	Electrical Test @ 25°C		100%	100%	100%
11	P.I.N.D	(750) 2052, Con A	N/A	N/A	100%
12	Electrical Test @ 25°C		N/A	N/A	100%
13	Fine leak, Helium bomb, -Leak detector	(750) 1071 Con H1	Optional	Optional	Optional
14	Gross leak, Liquid bomb, Bubble chamber	(750) 1071, Con C	Optional	Optional	Optional
15	Serialisation of devices		N/A	N/A	100%
16	Isolation 100% @ 25°C	(MIL-STD 202) 301	100%	100%	100%
17	Electrical Test @ 25°C		100%	100%	100%
18	Electrical Test @ 125°C		100%	100%	100%
19	Electrical Test @ -55°C		100%	100%	100%
20	Switching time @ 25°C		100%	100%	100%
21	HTRB (125°C)	(750) 1039, Con A (80% VDS)	100% (48 hrs)	100% (48 hrs)	100% (48 hrs)
22	Electrical Test @ 25°C		100% (24 hrs)	100% (24 hrs)	100% (16 hrs)
23	Burn-In (125°C)	(750) 1039, Con B (80% VDS)	100% (160 hrs)	100% (160 hrs)	100% (240 hrs)
24	Percentage defective allowable	Pre/post Burn-in electrical and delta at 25°C only	100% @ 10% PDA	100% @ 10% PDA	100% @ 5% PDA
25	Electrical Test @ 25°C		100% (Group A, SG 2)	100% (Group A, SG 2)	100% (Group A, SG 2)
26	Electrical Test @ 125°C		100% (Group A, SG 3)	100% (Group A, SG 3)	100% (Group A, SG 3)
27	Electrical Test @ -55°C		100% (Group A, SG 3)	100% (Group A, SG 3)	100% (Group A, SG 3)
28	Switching time @ 25°C		100% (Group A, SG4)	100% (Group A, SG4)	100% (Group A, SG4)
29	Fine leak, Helium bomb, -Leak detector	(750) 1071 Con H1	100%	100%	100%
30	Gross leak, Liquid bomb, Bubble chamber	(750) 1071, Con C	100%	100%	100%
31	Radiography	(750) 2076	N/A	N/A	100%
32	External Visual	(750) 2071	N/A	N/A	100%

For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

ISOCOM LIMITED

MIL-PRF 19500 TYPICAL QCI TESTING PROCESS FLOW

Group	Sub Group	Parameters	TM	Quantity (accept number)	
				JANS	JANTX, JANTXV
A (CI)	1	Visual and mechanical inspection	750-2071	100%	100%
	2	Static tests at +25°C	Datasheet		
	3	Static tests at min and max. rated operating temp.	Datasheet		
	4	Dynamic test at +25°C	Datasheet		
		(JANS)		Large LOT (accept)	Small LOT (accept)
B (PI)	1	Physical dimension	750-2066	22 (0)	8 (0)
	2	Solderability	750-2026	15 leads (0)	6 leads (0)
	3	Temperature cycling (100 cycles)	750-1051	22 (0)	6 (0)
		Hermetic seal (fine and gross leak)	750-1071		
		Electrical measurements	GRP-A-SG2		
		Decap internal visual	750-2075	6 (0)	6 (0)
		Bond strength	750-2037	22 wires (0) or 11 (0)	12 wires (0) or 6 (0)
		SEM	750-2077	11 (0)	6 (0)
		Die shear	750-2017	11 (0)	6 (0)
	4	Intermittent operation life (2000 cycles)	750-1037	22 (0)	12 (0)
		Electrical measurements	GRP-A-SG2		
		(JANTXV, JANTX)		Large LOT (accept)	Small LOT (accept)
B (PI)	1	Solderability	750-2026	15 leads (0)	4 leads (0)
	2	Temperature cycling (45 cycles incl. screening)	750-1051	22 (0)	6 (0)
		Hermetic Seal (fine and gross leak)	750-1071		
		Electrical measurements	GRP-A-SG2		
	3	Steady state op. life (340 Hrs) or intermittent op. life (2000 cycles)	750-1026 or 750-1037	45 (0)	12 (0)
		Electrical measurements	GRP-A-SG2		
	4	Decap internal visual	750-2075	1 (0)	1 (0)

For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

MIL-PRF 19500 TYPICAL QCI TESTING PROCESS FLOW

Group	Sub Group	Parameters	TM	Sample plan	Small LOT (accept)
C (PI)	1	Physical dimensions (Not Req. JANS)	750-2066	15 (0)	6 (0)
	2	Thermal shock (25 cycles, con B)	750-1056	22 (0)	6 (0)
		Temperature cycling (45 cycles incl. screening)	750-1051		
		Terminal strength	750-2036		
		Hermetic seal (fine and gross leak)	750-1071		
		Electrical measurements	GRP-A-SG2		
	3	Constant acceleration (5000g, Y1 only)	750-2006	22 (0)	6 (0)
		Electrical measurements	GRP-A-SG2		
	6	Steady state op. life (1000 Hrs) or intermittent op. life (6000 cycles)	750-1026 or 750-1037	22 (0)	12 (0)
		Electrical measurements	GRP-A-SG2		
	7	Internal Gas Analysis - Moisture 10,000 ppmv limit	750-1018	3 (0)	3 (0)

For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

MIL-PRF 38534 TYPICAL QCI TESTING
PROCESS FLOW

Group	Sub Group	Parameters	Quantity (accept number)		
			TM	K	H
A (CI)	1	Static tests at +25°C	Datasheet	100%	100%
	2	Static tests at max. rated operating temp.	Datasheet	100%	100%
	3	Static tests at min. rated operating temp.	Datasheet	100%	100%
	9	Switching tests at +25°C	Datasheet	100%	100%
B (PI)	1	Physical dimension	883-2016	2 (0)	2 (0)
	4	Internal visual and mechanical	883-2014	1 (0)	1 (0)
	5	Bond strength: Ultrasonic (on hotplate)	883-2011	2 (0)	2 (0)
	6	Die shear strength	883-2019	2 (0)	2 (0)
	7	Solderability	883-2003	1 (0)	1 (0)
	8	Seal: a. Fine, b. Gross	883-1014	N/A	15 (0)
C (PI)	1	External visual	883-2009	5 (0)	5 (0)
		Temperature Cycling	883-1010	5 (0)	5 (0)
		Constant acceleration	883-2001	X	5 (0)
		Seal (fine and gross)	883-1014	5 (0)	5 (0)
		PIND	883-2020	5 (0)	5 (0)
		Visual examination	883-1010	5 (0)	5 (0)
		End-point electrical	GRP-A	5 (0)	5 (0)
	2	Steady-state life test	883-1005	22 (0) or 5 (0)	22 (0) or 5 (0)
		End-point electrical	GRP-A	22 (0) or 5 (0)	22 (0) or 5 (0)
	3	Internal gas analysis Moisture 10,000 ppmv limit	883-1018	3 (0) or 5 (1)	3 (0) or 5 (1)
D (PI)	1	Thermal shock	883-1011	5 (0)	5 (0)
		Stabilization bake	883-1008	5 (0)	5 (0)
		Lead integrity	883-2004	1 (0)	1 (0)
		Seal: a. Fine, b. Gross	883-1014	5 (0)	5 (0)

For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

Summary of key differences between MIL-PRF 19500 and MIL-PRF 38534 for space level testing:

	MIL-PRF 19500 - JANS	MIL-PRF 38534 – Class K
No. of Operation (Screening) Steps	31	33
Optional Hermeticity Testing	Occurs post P.I.N.D	Occurs post Internal Visual
Temp cycle – No. of Temp Cycles	20	10
Acceleration - Amount of g force	5000g	3000g
HTRB – No. of hours	48	96
Burn-in – No. of hours	240 hrs in one successive burn-in	320 hrs (2 x 160 hrs with interim electrical)
PDA post burn-in	5% after 240 hrs burn-in	2% after second 160 hrs burn-in

For sales enquiries, or further information, please contact our sales office at:

ISOCOM Limited • 2 Fern Court • Bracken Hill Business Park • Peterlee • County Durham • SR8 2RR• United Kingdom
Email: sales@isocom.uk.com • Tel: +44 (0)191 416 6546

DISCLAIMER

The information provided on the datasheet is for preliminary and general information only. We do not warrant that the information contained on the datasheet is suitable for your intended use, nor do we accept responsibility for loss suffered as a result of reliance by you upon the accuracy or currency of information contained on the datasheet. In particular, you should not make any investment or commercial decision on the basis of the information contained on the datasheet. You should obtain independent professional advice and make your own further enquiries before making any investment or commercial decision or taking any further action in any way related to the information contained on the datasheet.

We are not aware of any inaccuracy in the information contained on the datasheet. However, we do not warrant the accuracy, adequacy or completeness of such information.

We reserve the right to remove or alter any of the information contained on the datasheet at any time. However, we do not guarantee the currency of the information contained on the datasheet, nor do we undertake to keep the datasheet updated.

ISOCOM Limited
2 Fern Court
Bracken Hill Business Park
Peterlee
County Durham
SR8 2RR
United Kingdom

W – www.isocom.uk.com
E – sales@isocom.uk.com
T - +44 (0) 191 416 6546

ISOCOM Limited is AS9100 certified for the design and manufacture of electronic and optoelectronic components.