

Analog Devices Welcomes Hittite Microwave Corporation

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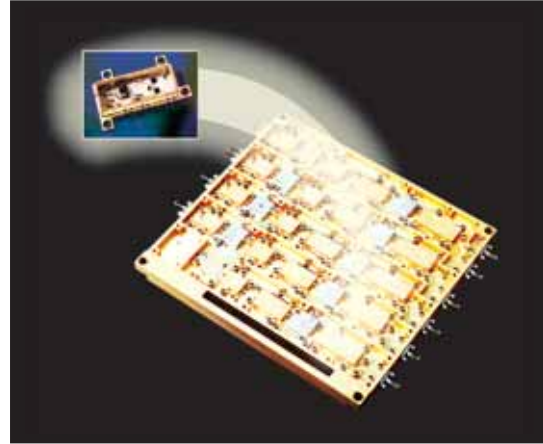


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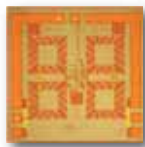
Military Level (Class B) MMIC Die and Packaged Die Screening

Hittite Microwave performs Class B screening on standard & custom product die and packaged die including SMT plastic encapsulated devices for COTS applications. We also design, produce and screen highly integrated MIC modules and subsystems for major defense OEMs.

Die are shipped at customer request in either conductive standard Gel-Paks or conductive standard Waffle-Paks. Tables 1 & 2 summarize tests Hittite Microwave will perform on die, packaged die, modules and subsystems for military and Hi-Rel commercial applications.



**Military Screened Sub-Assembly
Containing MIC Modules**



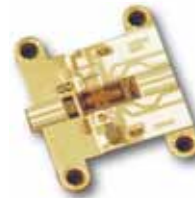
Class B Die



**COTS SMT
Plastic Package**



**COTS SMT
Hermetic Package**



MIC Hybrids



**Hermetic
Connectorized
Module**

Screen	MIL-STD-883 Test Method and Condition
1. Electrostatic Discharge Sensitivity (ESD)	3015
2. Wafer Acceptance	Table 2 herein. Class-B element evaluation
3. Internal visual	2010, Test Condition B
4. Temperature cycling	1010, Test Condition C, 10 cycles minimum
5. Constant acceleration	2001, Test Condition A, Y1 orientation only
6. Serialization	In accordance with device specification
7. Interim (pre burn-in) electrical parameters	In accordance with device specification
8. Burn-in test	1015, 160 hours at +125 °C, biased
9. Interim (post burn-in) electrical parameters	In accordance with device specification
10. Final electrical test	In accordance with device specification
11. Seal a. Fine b. Gross	1014, Test Condition A & C
12. External visual	2009 and product outline specification

Table 1: Class B Packaged MMIC Die and MIC Sub-Assembly Screening Procedure to MIL-PRF-38534 and MIL-PRF-38535 as applicable.



Sub Group	Class		Test	MIL-STD-883		Quantity (accept number)
	S	B		Method	Condition	
1	x	x	Element electrical			100 percent
2	x	x	Element visual	2010 2072 ^{1/} 2073 ^{1/}	A = Class S B = Class B	100 percent
3	x	x	Internal visual	2010 2072 ^{1/} 2073 ^{1/}	A = Class S B = Class B	10 (0)
4	x		Temperature cycling	1010	C	10 (0)
	x		Interim electrical			
	x		Burn-in	1015	240 hours minimum at +125°C, biased	
	x		Post burn-in electrical			
	x		Steady-state life	1005	1000 hours minimum at +125°C, biased	
	x	x	Final electrical			
5	x	x	Wire bond evaluation	2011	D	10 (0) wires or 20 (1) wires
6	x		Wafer Lot Acceptance Test (LAT) • SEM • Wafer Thickness • Metal Thickness • Glassivation Thickness	5007		5 (0) die per wafer

^{1/} MIL-PRF-38534 methods

Table 2: Class S & B MMIC Die/Wafer Screening & Qualification Procedure