


# PROBLEM ADVISORY

<b>1. TITLE (Class, Function, Type, etc.)</b>  <b>LCC-20 Package Configuration, Thermal Pads</b>		<b>2. DOCUMENT NUMBER</b> <b>FV5-P-07-01</b>	
		<b>3. DATE (DD-MMM-YY)</b> <b>12 October 2006</b>	
<b>4. MANUFACTURER AND ADDRESS</b> <b>International Rectifier, HiRel Products</b> <b>205 Crawford Street</b> <b>Leominster, MA 01453</b>	<b>5. PART NUMBER</b> <b>SEE DOCUMENT</b>	<b>6. NATIONAL STOCK NUMBER</b> <b>SEE DATABASE</b>	
	<b>7. SPECIFICATION</b> <b>MIL-PRF-38535</b>	<b>8. TYPE DESIGNATOR</b> <b>MIL-STD-883 / non-QML</b>	
	<b>9. LOT DATE CODE START</b> <b>9701</b>	<b>10. LOT DATE CODE END</b> <b>0620</b>	
<b>11. MANUFACTURER'S POINT OF CONTACT</b> <b>Paul Hebert</b>	<b>12. CAGE</b> <b>69210</b>	<b>13. MANUFACTURER'S FAX</b> <b>(978) 537-4246</b>	
<b>14. MFR. POC PHONE</b> <b>(978) 514-6180</b>	<b>15. MANUFACTURER'S E-MAIL</b> <b>phebert@irf.com</b>		
<b>16. CROSS REFERENCE VENDOR</b> <b>NOT AVAILABLE</b>	<b>17. CROSS REFERENCE CAGE</b> <b>NOT AVAILABLE</b>	<b>18. CROSS REFERENCE PART</b> <b>NOT AVAILABLE</b>	
<b>19. PROBLEM DESCRIPTION / DISCUSSION / EFFECT</b>  <p>Voltage regulators designated with SMD case outline "2" were identified to deviate from the CQCC1-N20 package drawing called out, as specified in MIL-STD-1835. The 20 pin leadless chip carrier devices supplied by International Rectifier integrated a thermal pad design, whereas the associated type in CQCC1-N20 case outline does not. The thermal pad design incorporates nine small solderable pads in the center section of the package bottom (see photo 1 herein for reference). The thermal pads are common with the package lid, but isolated from all active circuit pads. Reference figure 1 and 2 herein for exhibit of the referenced LCC packages case outlines.</p> <p>The SMD parts (listed in table 1 herein) have been supplied in the LCC-20 package, integrating thermal pads, since 1997. No field failures or return due to the LCC package thermal pads have been recorded.</p>			
<b>20. ACTION TAKEN/PLANNED</b>  <p>1) All SMD LCC-20 inventories have been placed on hold (See Table 1 herein) and will be remarked with new IR custom part numbers. A part number cross reference matrix will be made available upon request.</p> <p>2) International Rectifier has changed the LCC-20 packages to meet the MIL-STD-1835, CQCC1-N20 drawing.</p> <p>3) The applicable SMD parts have been re-qualified with the new package design in accordance to the applicable standards and guidelines.</p> <p>4) As a result of demand for LCC-20 devices incorporating thermal pads, International Rectifier will continue to offer these devices as an option. These will be offered and marked with IR standard part numbers.</p>			
<b>21. DATE MFR. NOTIFIED</b>  <b>NOT APPLICABLE</b>	<b>22. MANUFACTURER'S RESPONSE</b> <input type="checkbox"/> REPLY ATTACHED <input checked="" type="checkbox"/> <b>NOT APPLICABLE</b> <input type="checkbox"/> NO REPLY	<b>23. ORIGINATOR ADDRESS/POINT OF CONTACT</b>  <b>Paul Hebert, International Rectifier – HiRel Products</b> <b>(978) 514-6180</b> <b>phebert@irf.com</b>	
<b>24. GIDEP REPRESENTATIVE</b> <b>Paul Hebert</b>	<b>25. SIGNATURE</b>  	<b>26. DATE</b> <b>Oct. 12, 2006</b>	

**FV5-P-07-01**

**20. ACTION TAKEN/PLANNED (continued)**

**Table 1  
List of Affected Product**

SMD Part Numbers
5962-87776012A
5962-87782012A
5962-87782032A
5962-88553012A
5962-88746012A
5962-88748012A
77034012A
77034022A
77034032A
77034052A
77034062A
77034072A
IR Custom Part Numbers
OM13442N2M
OM13443N2M
OM13737N2M

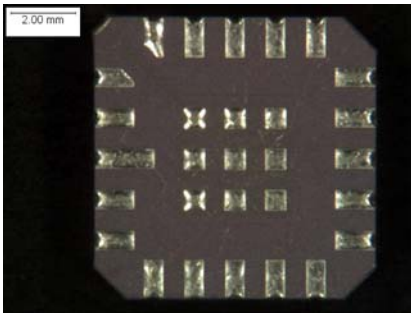


Photo 1 – Shows backside of LCC-20 with Thermal Pads

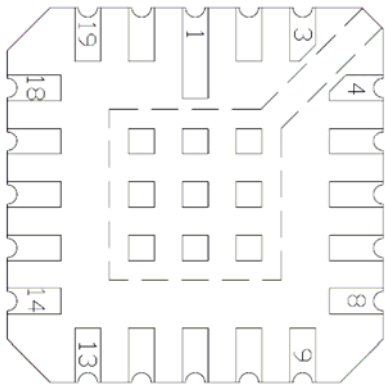


Figure 1 – LCC-20 Package with Thermal Pads

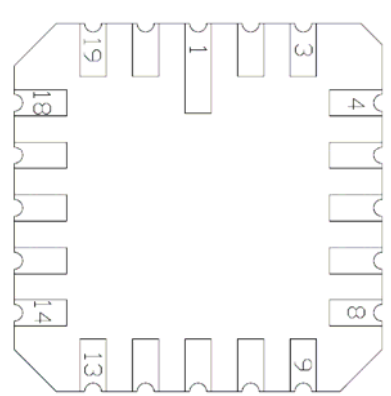


Figure 2 – LCC-20 (Drawing CQCC1-N20)