

4Ps Checklist DirectFET® MOSFET

Application Support:

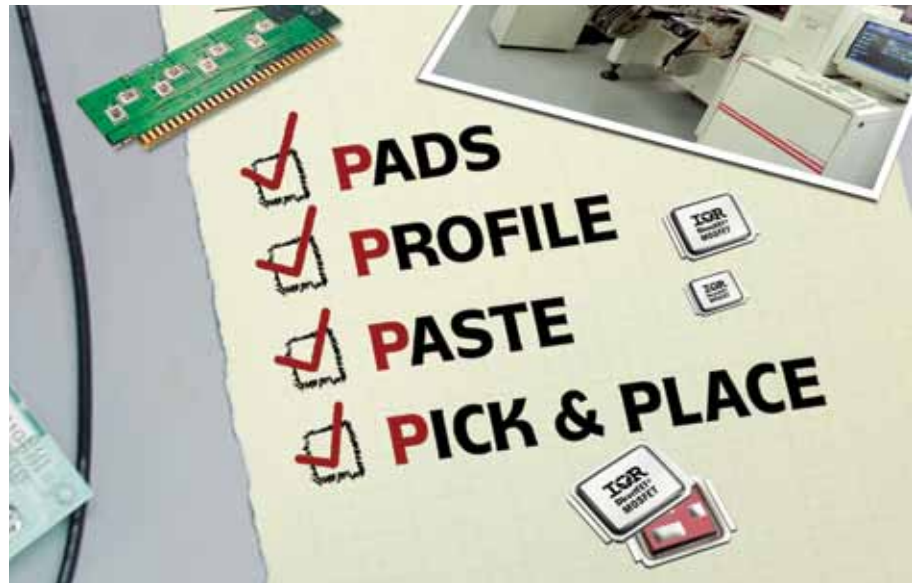
- DirectFET® Discovery Website (discovery.irf.com)
- DirectFET® MOSFET User's Guide
- DirectFET® MOSFET Thermal Rating Calculator
- Solutions to Design Challenges
- Board Mounting
- DirectFET® MOSFET Movie – re-working
- Materials & Practices

Technical Assistance Centers:

North America
Hours: 8:00AM-5:00PM PST
Tel: 1-310-252-7105
Fax: 1-310-252-7903

Europe
Hours: 9:00AM-5:00PM CET
Tel: ++ 49-(0)6102-884-311
Fax: ++ 49-(0)6102-884-433

Asia
Hours: 9:00AM-6:00PM CST
Tel: ++ 86-(0)21-5877-5606
Fax: ++ 86-(0)21-5877-3880



Can you check all of the above boxes? Does your product design and board assembly set up match the recommendations made by International Rectifier for all of the above 4Ps? If so, then you are set for success. **If not, then read on for more information on these four areas.**

Storage and Moisture Sensitivity

The plating configuration on DirectFET® components is mildly photosensitive and can also be tarnished by the high levels of atmospheric pollution that occur in some industrialized areas. Therefore, when not in use on the production line, the devices should be resealed in the antistatic bags in which they are supplied and should be kept out of direct sunlight

DirectFET® components should be treated as MSL3 level devices. For further information please refer to application note AN1035 at www.irf.com

PbF:

All DirectFET® MOSFETs are leadfree and RoHS compliant.

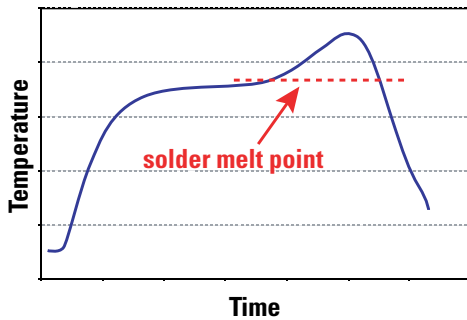
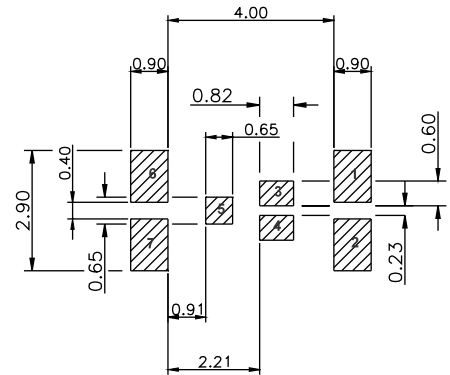
PADS

Ensure that the pad outline on your board matches the recommendations for each of the DirectFET® product outlines being used.

Outlines are shown on the device datasheet or Application Note AN1035. Both can be found at www.irf.com. Possible outlines and pad layout are below:

Please note that it is critical that the pad outlines on the board are checked as boards delivered from PCB vendor may differ from the original gerber design files

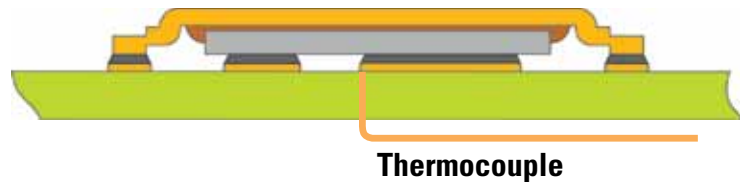
Small Can	Medium Can	Large Can
S1	MU	L6
S2	M2	
SB	M4	
ST	MX	
SH	MT	
SQ	MN	
SJ	MP	
	MQ	
	MZ	
	MA	



PROFILE

Ensure that the temperature profile seen by the DirectFET® MOSFET meets at least the minimum profile requirements as specified by the solder paste vendor.

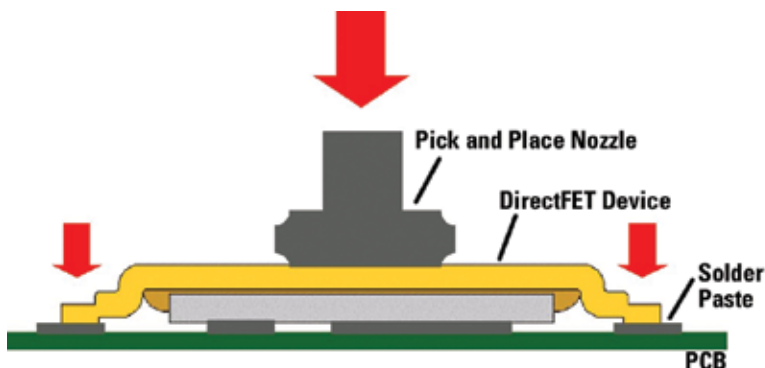
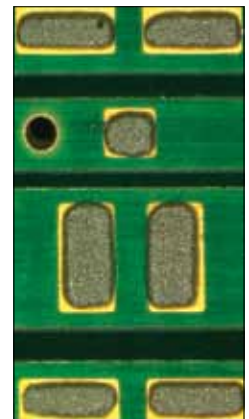
The temperature profile of the DirectFET® MOSFET must be measured at the DirectFET® MOSFET with a thermocouple 'buried' in the board.



PASTE

Solder paste volume is critical to achieving good solder joint quality and high production yields. Ensure the ratio of solder paste volume to PCB pad area is correct.

There are recommended stencil designs for each of IR's DirectFET® MOSFET outlines based on a 6mil/150µm thick stencil. These recommendations can be found on each device datasheet and in Application Note AN1035. Both the datasheets and the application note can be found at www.irf.com.



PICK & PLACE

In order for all DirectFET® MOSFET solder connections to be made, your Pick & Place machine should be set to give a placement force of 150 – 250g and/or an over-travel into the printed solder paste of 0.05 – 0.10mm (0.002 – 0.004")