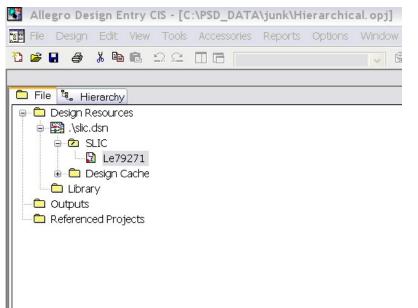
Hierarchical Design Example for Design Reuse

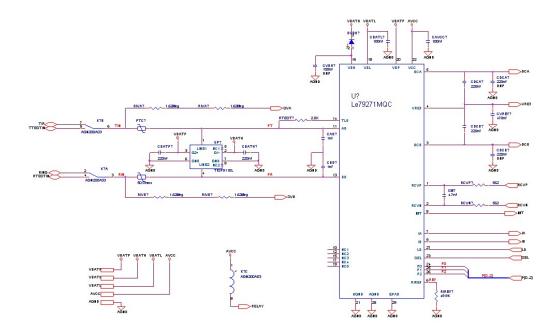
The use of reuse modules allows the designer to create a schematic and layout of a circuit 1 time and use this as a "part" in any design. This leads to reduced design cycle and improved quality buy using a "proved in" design.

The process flow starts with creating a sub-circuit schematic design. In this example I will create a Ve792 SLIC circuit.

1. Create a design:



2. Create a schematic. Note that the schematic is not annotated and uses a heterogonous part, the relay. Before you annotate the schematic it's important to group the heterogonous parts so these parts will annotate correctly.



3. Grouping heterogeneous parts: Add a field the part (I prefer to use the field name PartGroup). Make sure that the part has a unique grouping and each instance has a unique grouping.

	A	В	С	D	E	F
	🖃 SLIC : Le79271 : K	/K?	🖃 SLIC : Le79271 : K	/K?	🖃 SLIC : Le79271 : K	/K?
Color	Default	Default	Default	Default	Default	Default
Designator	A	A	С	C	В	В
Dist Part Number	255-1504-5-ND	255-1504-5-ND	255-1504-5-ND	255-1504-5-ND	255-1504-5-ND	255-1504-5-ND
Distributor	Dígikey	Digikey	Digikey	Digikey	Digikey	Digikey
Graphic	AGN200A03H SMD S	AGN200A03H SMD S	AGN200A03H SMD S	AGN200A03H SMD S	AGN200A03H SMD S	AGN200A03H SMD 3
ID		94		98		90
Implementation						
mplementation Path						
mplementation Type	<none></none>	<none></none>	<none></none>	<none></none>	<none></none>	<none></none>
ocation X-Coordinate	300	300	650	650	290	290
ocation Y-Coordinate	490	490	730	730	370	370
Manufacturer	Aromat	Aromat	Aromat	Aromat	Aromat	Aromat
Name	INS16778055	INS16778055	INS16778064	INS16778064	INS16778046	INS16778046
Part Number	AGN200AD3	AGN200A03	AGN200A03	AGN200A03	AGN200A03	AGN200A03
Part Reference	K?A	K?A	K?C	K?C	K?B	K?B
PartGroup	1	1	1	1	1	1)
PCB Footprint	REL_SMD10	REL_SMD10	REL_SMD10	REL_SMD10	REL_SMD10	REL_SMD10
Power Pins Visible	Γ		Г		Γ	
Primitive	DEFAULT	DEFAULT	DEFAULT	DEFAULT	DEFAULT	DEFAULT
Reference	K?	K?	K?	K?	K?	K?
RoHS	Yes	Yes	Yes	Yes	Yes	Yes
Source Library	C:\DOCUMENTS A	CADOCUMENTS A	C:\DOCUMENTS A	C:\DOCUMENTS A	C:\DOCUMENTS A	CADOCUMENTS A
Source Package	AGN200A03H_SMD_S	AGN200A03H_SMD_S	AGN200A03H_SMD_S	AGN200A03H_SMD_S	AGN200A03H_SMD_S	AGN200A03H_SMD_S
Source Part	AGN200A03H_SMD_S	AGN200A03H_SMD_S	AGN200A03H_SMD_S	AGN200A03H_SMD_S	AGN200A03H_SMD_S	AGN200A03H_SMD_S
Value	AGN200A03	AGN200A03	AGN200A03	AGN200A03	AGN200A03	AGN200A03
Voltage	JV///VE	3V	//////3₩//////	3V	///////////////////////////////////////	3V

4. Now annotate the design, and in the Physical Packaging add the part field name you created for grouping with { } in the Combined property string field, i.e. {PartGroup}.

ackaging PCB Editor Reuse Layout Reuse	
Refdes control required	
Scope	
Update entire design	
Opdate selection	
Action	
Incremental reference update	
OUnconditional reference update	
Reset part references to "?"	
O Add Intersheet References	
O Delete Intersheet References	
Mode	
O Update Occurrences	
Update Instances (Preferred)	
Physical Packaging	
Combined property string:	
rce Package}{POWER_GROUP}{PartGroup}	
Reset reference numbers to begin at 1 in each page	en ben ben ben ben ben ben ben ben ben b
Annotate as per PM page ordering	OAnnotate as per page ordering in the title blocks
Do not change the page number	
Include non-primitive parts	

5 Now annotate the design, then annotate the design again, however this time you will use the PCB Editor Reuse Tab and select th Generate Reuse module in the Function Box.

Function	e Reuse module				
		ng reuse modules			
Action					
Increme	ntal O	Unconditional			
- Physical Pac	kaging				
Property Con			_		
{Value}{So	irce Library}				
Select module	s to mark for reuse	9:	_		
Select module	s to mark for reuse	3:			
Select module	s to mark for reuse	3:			
Select module	s to mark for reuse	3:			

This function creates a field named REUSE_ID in the parts properties and each instance will have a unique number

🚯 Allegro Design	Entry CIS - [Propert	ty Editor]		
📃 File Edit View	Options Window H	elp		
🔁 🗃 🗃 👗 🛙				
New Row	pply Display [Delete Property Filter b		
	Α	В		
	😑 SLIC : Le79271 : U	/U1		
Color	Default	Default		
Designator				
Graphic	Le79271_SLIC_QFN28.	Le79271_SLIC_QFN28		
ID	///////////////////////////////////////	51		
Implementation	ntahalahahahahahahahahahahahahahahahahah			
Implementation Path				
Implementation Type	<none></none>	<none></none>		
ocation X-Coordinate	920	920		
Location Y-Coordinate	220	220		
Manufacturer	Legerity	Legerity		
Name	INS16777813	INS16777813		
Part Number	Le79271MQC	Le79271MQC		
Part Reference	U1	U1		
PCB Footprint	QFN28_4x5_NGCC	QFN28_4x5_NGCC		
Power Pins Visible				
Primitive	DEFAULT	DEFAULT		
Reference	U1	U1		
REUSE_ID		14		
RoHS	Yes	Yes		
Source Library	C:\DOCUMENTS A	CADOCUMENTS A		
Source Package	Le79271_SLIC_QFN28	Le79271_SLIC_QFN28		
Source Part		Le79271 SLIC QFN28.		
Value	Le79271MQC	Le79271MQC		