



Date Created: 3/3/2004
Date Issued: 3/11/2004
PCN # 20033404-A

DESIGN/PROCESS CHANGE NOTIFICATION -- FINAL

This is to inform you that a design and/or process change will be made to the following product(s). This notification is for your information and concurrence.

If you require data or samples to qualify this change, please contact **Fairchild Semiconductor within 30 days of receipt of this notification.**

If you have any questions concerning this change, please contact:

Name: Rivero, Doug M.
E-Mail: Doug.Rivero@notes.fairchildsemi.com
Phone: 1-408-822-2143

PCN Originator

Name: Knapp, Paul E.
E-mail: Paul.Knapp@notes.fairchildsemi.com
Phone: 408-822-2133

REL Engineer

Name: Uy, Lester O.
E-mail: Lester.Uy@notes.fairchildsemi.com
Phone: 63-32-3415636

PCN Type: Alternate Assembly/Test Location/Qualification

Effectivity

Expected 1st Device Shipment Date: 4/12/2004
Earliest Year/Work Week of Changed Product: 0407
(Note: Package marking may differ from this format)

Product ID (Description):

This change affects all Power Discrete products assembled in the TO-252(DPAK) and TO-251(IPAK) packages. The products affected by this change are listed below in the "Affected FSIDs" section.

Description of Change:

Fairchild Semiconductor (Suzhou) Co., LTD has been qualified as an additional assembly and test site as part of Fairchild Semiconductor's ongoing effort to increase manufacturing capacity for our various products assembled in the TO-252 and TO-251 packages.

This new facility is located at 1 Sutong Road, China-Singapore Suzhou Industrial Park Suzhou, Jiangsu P. R. of China.

The following are the package dimensional, process and material differences between the qualified sites and the additional Fairchild assembly and test facility to be qualified.

		Site 1- Qualified	Site 2- Qualified	Site 3- Qualified	Site 4- Qualified
		ChipPAC- Malaysia	Gem-Shanghai	Fairchild-Cebu	Fairchild-Suzhou
Lead frame	Plating	Full Ni.	Ni Plating on Lead Post.	Ni Plating on Lead Post.	Ni Plating on Lead Post.
	Gage	Dual	Single	Single	Single
	Material	Cu Alloy -Tamac4/ -KFC 1/2H	Cu Alloy -KFC 1/2H	Cu Alloy -KFC 1/2H -12SnOFC	Cu Alloy -KFC 1/2H -12SnOFC
Wire		Al	Al	Al	Al
Die Attach Solder	Material	92.5Pb5Sn2.5Ag	90Pb10Sn/ 92.5Pb5Sn2.5Ag	92.5Pb5Sn2.5Ag	92.5Pb5Sn2.5Ag
Molding Compound		EME6600CS	EME6600CR/ EME6600DD	EME6600CS	AMC-2RC
Marking	Method	Laser	Laser	Laser	Laser
Plating	Material	82Sn18Pb/Pure Sn	85Sn15Pb/PureSn	85Sn15Pb/PureSn	88Sn12Pb/PureSn
	Method	Electroplatin g	Electroplating	Electroplating	Electroplating
Fab Site		Salt Lake/ MountainTop	Salt Lake/ MountainTop	Salt Lake/ MountainTop	Salt Lake/ MountainTop

DPAK (TO-252) Package Dimensional Review

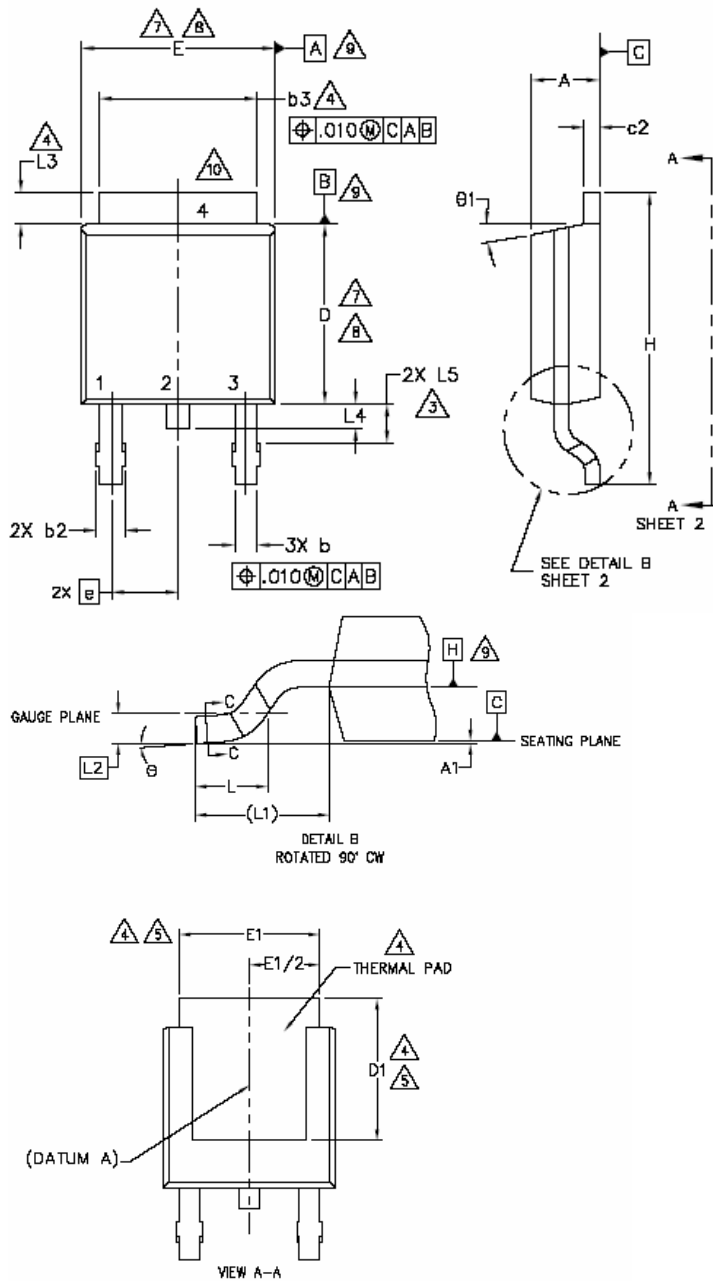


Figure 1. DPAK Package Outline (JEDEC)

(All dimensions shown in inches)

Table 2. TO-252 Package Dimensional Review

Sym	Description	JEDEC TO-252				Fairchild Mkt-Outline Spec MKT-252A03				Fairchild Suzhou Actual Unit Dim Nominal	Remarks
		Option AA		Option AB		Option AA		Option AB			
		Min	Max	Min	Max	Min	Max	Min	Max		
L3	Heat Sink Height	0.035	0.050	0.060	0.080	0.35	0.050	0.060	0.080	0.046	Conforms to Jedec (AA)

A	Package Thickness	0.086	0.094	0.086	0.094	0.086	0.094	0.086	0.094	0.088	Conforms to Jedec (AA)
D	Package Length	0.235	0.245	0.210	0.220	0.235	0.245	0.210	0.220	0.242	Conforms to Jedec (AA)
D1	BackMetal Length	0.205	-	0.180	-	0.205	-	0.180	-	0.207	Conforms to Jedec (AA)
E1	Back Metal Width	0.170	-	0.150	-	0.170	-	0.150	-	0.211	Conforms to Jedec (AA)
E	Package Width	0.250	0.265	0.250	0.265	0.250	0.265	0.250	0.265	0.257	Conforms to Jedec (AA)
H	Total Pkg Length	0.370	0.410	0.370	0.410	0.370	0.410	0.370	0.410	0.398	Conforms to Jedec (AA)
L	Foot Length	0.055	0.070	0.055	0.070	0.055	0.070	0.055	0.070	0.059	Conforms to Jedec (AA)
b	Lead Width	0.025	0.035	0.025	0.035	0.025	0.035	0.025	0.035	0.031	Conforms to Jedec (AA)

All dimensions shown in inches.

Note:

- 1) Fairchild Suzhou DPAK is following and within Fairchild Standard Marketing Outline and conforms to JEDEC Option AA.

IPAK (TO-251) Package Dimensional Review

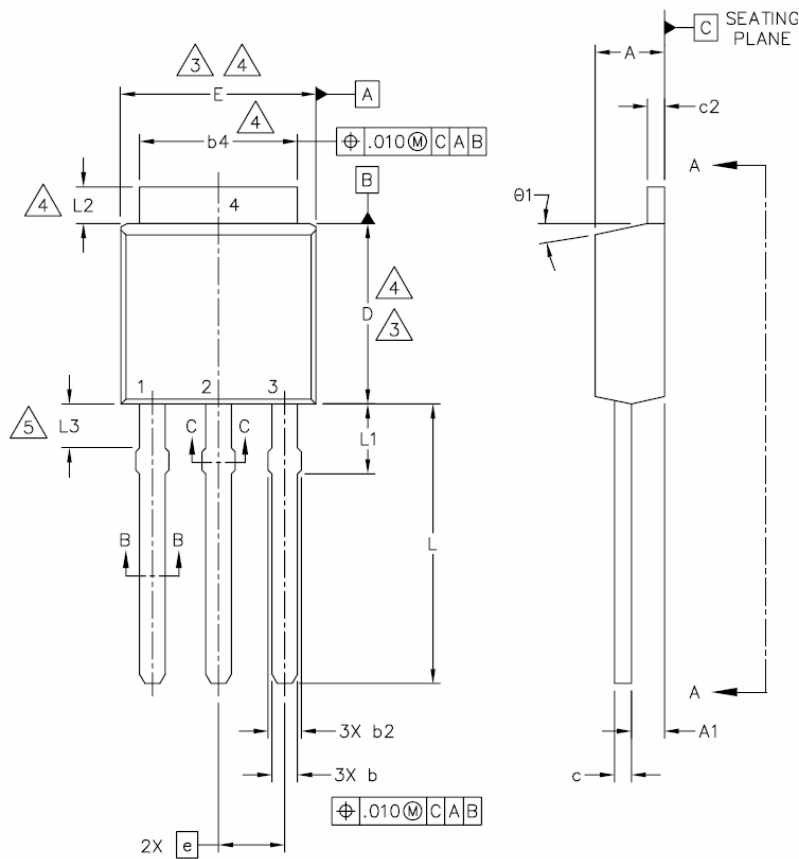


Figure 1. IPAK Package Outline (Jedec)

Table 3. TO-251 Package Dimensional Review

Sym	Description	JEDEC TO-252		Fairchild Mkt-Outline Spec (TO-251A03)		Fairchild Suzhou	Remarks
		Option AA	Option AA	Option AA	Option AA		
		Min	Max	Min	Max	Actual Unit Dim	
						Nom	
L2	Heat Sink Height	0.035	0.050	0.35	0.050	0.045	Conforms to Jedec(AA)
A	Package Thickness	0.086	0.094	0.086	0.094	0.090	Conforms to Jedec (AA)
D	Package Length	0.235	0.245	0.235	0.245	0.241	Conforms to Jedec (AA)
E	Package Width	0.250	0.265	0.250	0.265	0.258	Conforms to Jedec (AA)
L	Lead Length	0.350	0.380	0.350	0.380	0.367	Cofirm to Jedec(AA)
L1	Stand-off Height	0.075	0.090	0.075	0.090	0.078	Conforms to Jedec (AA)
b	Lead Width	0.025	0.035	0.025	0.035	0.031	Conforms to Jedec(AA)

All dimensions shown in inches.

Note:

1)Fairchild Suzhou IPAK is following and within Fairchild Standard Marketing Outline and conforms to Jedec Option AA.

Effect of Change:

This change will have no impact on any of the electrical parameters of the products involved. The product test conditions, test limits and performance will remain unchanged. The Suzhou facility will produce products with the same level of quality and reliability as the existing manufacturing sites.

Products manufactured at the Suzhou site will provide Fairchild Semiconductor the ability to meet the increase in customer demand on TO-252/251 packages. Once qualified, products may be supplied from any of our qualified manufacturing locations.

Qualification:

The qualification summary of this change consisted of key silicon vehicles in a broad range of products. Summary report is in the next section.

Qual/REL Plan Numbers

Additional Qualification Data

Qual Plan Nbr : QP03460120

Title : Suzhou Assembly Site

Qualification for D-pak/I-pak

Background/Description : Suzhou is being qualified as an alternate Assembly Site.

Scope : All currently qualified Trench and Planar MOS 20V-150V listed in this PCN

ATTACHMENT 1
Dpak RELIABILITY TEST RESULT SUMMARY

Qualification Vehicles

DEVICE	VBR Rating	PKG
FDD2572	150V	TO-252/D-pak
ISL9N306AD	30V	TO-252/D-pak
HUFA75429D	100V	TO-252/D-pak

Test Number 13123

TEST DESCRIPTION/CONDITION	DURATION	NBR OF LOTS	SAMPLE SIZE	Results	Ref Specs
Parametric Verification		3	25	0	Data sheet
Autoclave @ 121 °C, 15psi, 100% RH w/ L-1 Preconditioning at 260 deg C	96 Hrs	3	77	0	JESD22-A102
Temp Cycle@ -55C to 150 C w/ L-1 Preconditioning at 260 deg C	1000 cycles	3	77	0	JESD22-A104
THBT 85 C/ 85% RH, 45V w/ L-1 Preconditioning at 260 deg C	1000 hours	3	77	0	JESD22-A110-B JESD22A-101
Power Cycle @ delta Tj of 100C w/ L-1 Preconditioning at 260 deg C	10Kcyc	3	77	0	JESD22-A105
HTRB @ 80% of Rated Vds, 150C &175C	1000 hrs	3	77	0	JESD22-A108
HTGB @ 100 % Rated Vgs, 150C &175C	1000 hrs	3	77	0	JESD22-A108-B

Affected FSIDs

5E36_B5E010A	5E36_B5E013A	5M36_B5M008A
5U36_B5U001A	BI36_BBI001A	FDD2512
FDD2570	FDD2612	FDD2670
FDD3570	FDD3580	FDD3670
FDD3680	FDD3690	FDD3706
FDD5612	FDD5614P	FDD5670

FDD5680
FDD6030L
FDD6512A
FDD6612A
FDD6644
FDD6670AL
FDD6676
FDD6680A
FDD6688
FDD6692
FDD8870
FDU3706
FDU6512A
FDU6680
FDU6688
FDU7030BL
FQD45N03LTF
HUF75307D3
HUF75309D3ST
HUF75321D3ST
HUF75329D3ST
HUF75617D3ST
HUF75829D3ST
HUF76013D3S
HUF76121D3
HUF76129D3S
HUF76407D3S
HUF76419D3
HUF76423D3S
HUF76609D3
HUF76619D3
HUF76629D3
ISL9N2357D3ST
ISL9N307AD3ST
ISL9N310AD3
ISL9N312AD3ST
ISL9N318AD3ST
MTD3055V
RFD12N06RLESM9A
RFD14N05LSM
RFD14N05SM9A
RFD16N05LSM9A
RFD16N06LESM9A
RFD3055LESM
RFD3055SM9A

FDD5690
FDD6035AL
FDD6530A
FDD6630A
FDD6644S
FDD6670S
FDD6676S
FDD6680S
FDD6690A
FDD6696
FDD8896
FDU6030BL
FDU6612A
FDU6680A
FDU6692
FDU8870
FQD60N03LTM
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HUF75321D3
HUF75329D3
HUF75617D3
HUF75829D3
HUF75925D3ST
HUF76013D3ST
HUF76121D3ST
HUF76129D3ST
HUF76407D3ST
HUF76419D3ST
HUF76429D3S
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HUF76629D3S
ISL9N306AD3
ISL9N308AD3
ISL9N310AD3ST
ISL9N315AD3
ISL9N322AD3ST
MTD3055VL
RFD14N05
RFD14N05LSM9A
RFD16N05
RFD16N05SM
RFD3055
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FDD6030BL
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RFD12N06RLE
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RFD16N05LSM
RFD16N05SM9A
RFD3055LE
RFD3055SM