DOCUMENT CHANGE REQUEST

DCR number 166	Changes required for: General	Originator: SAVIN Samuel
Date: 2005/04/07	Date sent: 2005/04/07	Organisation:
Status: IMPLEMENTED		

Title:	Diode, Silicon, Power Rectifier, Schottky Barrier, based on type STPS6045		
Number:	5106/018	Issue:	1

Other documents affected:

Page:

See file attached

Paragraph:

See file attached

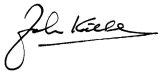
Original wording:

Proposed wording:

See file attached

Justification:

The specification Issue 1, has been raised by STMicroelectronics taking into account the electrical results obtained on the SMD1 package (variant 02), but STMicroelectronics has omitted to increase by simulation the VF value on the TO254 package induced by the parasitic resistor due to the raw material used in this package (lead material, Beryllium Oxide, mechanical interface between the lead and Beryllium Oxide)
For example : SMD1 . parasitic resistor ≈ 1 mΩ
TO254 . parasitic resistor ≈ 4 mΩ
As a consequence STMicroelectronics is requesting a waiver for the limits of the VF3 and VF4 for variant 01 (TO254).
These new limits have been checked and validated in internal pilot lot.
Note: Without any waiver STMicroelectronics is not able to supply the variant 01 with the actual Die used.

Attachments:
DCR_STPS6045.pdf, null
Modifications:
DCR is approved with the following additions: T2, T3(a), T6 : Amend the additional note, per DCR166, to read "All Variants" (was "All variant") Table 3(b), No.4 Forward Voltage Drop 3: Add "All Variants" under Characteristics column
Approval signature:

Date signed:
2005-04-07

DOCUMENT CHANGE REQUEST

DCR Class

TO BE COMPLETED BY ORIGINATOR

Change Request No.

Originator (1)
S.SAVIN

Affiliation
STMicroelectronics RENNES

Originator Signature (2)

Date: 18/03/2005

DOCUMENT AFFECTED

Doc No. (4)	Status (5)	Title: (6)
5106/018	Issue 1	DIODES, SILICON, POWER RECTIFIER, SCHOTTKY BARRIER, BASED ON TYPE STPS6045

Paragraph(s) and page(s) affected (7)

Other documents affected (8)

PROPOSED WORDING OF CHANGE (9)

See attached documents

Continuation sheet(s) attached [X] Yes [ ] No

JUSTIFICATION (10)

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Note: Without any waiver STMicroelectronics is not able to supply the variant 01 with the actual Die used.

Continuation sheet(s) attached [X] Yes [ ] No

Changes required for: (11)
Procurement (project) [ ] Qualification [ ] MRB Decision [ ]
General improvement of Spec. [X] Other [ ]

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Date of Registration:

Order of Priority for Appr/Impl.: 1 (high) [ ] 2 (medium) [ ] 3 (low) [ ]

Attachments: [ ]

Qualification Status: Qualified [ ] In process of qualification [ ] N/A [ ]

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Approved [ ] Yes [ ] No

Signature

Reference to SCSB / PSWG decision

Priority [ ]

Role

Date

Approved wording if different from box 9 or reason for rejection

Continuation sheet(s) attached [ ] Yes [ ] No

TABLE 2 - ELECTRICAL MEASUREMENTS AT ROOM TEMPERATURE , D.C.PARAMETERS

No.	CHARACTERISTICS	SYMBOL	MIL-STD-750 TEST METHOD	TEST CONDITIONS (NOTE 1)	LIMITS		UNIT
					MIN.	MAX.	
1	Reverse Current All variant	I_R	4016	V_R=VRWM= 45 Vdc		500	µA
2	Forward Voltage Drop 1 All variant	V_{F1}	4011	I_{F1}=5 A Note 2		520	mV
3	Forward Voltage Drop 2 All variant	V_{F2}	4011	I_{F2}=10 A Note 2		590	mV
4	Forward Voltage Drop 3 Variant 01 Variant 02	V_{F3}	4011	I_{F3}= 20 A Note 2		650 630	mV
5	Forward Voltage Drop 4 Variant 01 Variant 02	V_{F4}	4011	I_{F4}= 35 A Note 2		820 750	mV

NOTES

1 Measurements per each diode

2 Pulsed measurement : Pulse width ≤ 300us , Duty cycle ≤ 2%.

TABLE 3(a) - ELECTRICAL MEASUREMENTS AT HIGH TEMPERATURES (125°C)

No.	CHARACTERISTICS	SYMBOL	MIL-STD-750 TEST METHOD	TEST CONDITIONS (NOTE 1)	LIMITS		UNIT
					MIN.	MAX.	
1	Reverse Current All variant	I_R	4016	V_R=VRWM= 45 Vdc		40	mA
3	Forward Voltage Drop 2 All variant	V_{F2}	4011	I_{F2}=10 A Note 2		530	mV
4	Forward Voltage Drop 3 Variant 01 Variant 02	V_{F3}	4011	I_{F3}= 20 A Note 2		610 570	mV
5	Forward Voltage Drop 4 Variant 01 Variant 02	V_{F4}	4011	I_{F4}= 35 A Note 2		790 710	mV

NOTES

1 Measurements per each diode

2 Pulsed measurement : Pulse width ≤ 300us , Duty cycle ≤ 2%.

TABLE 6 - ELECTRICAL MEASUREMENTS AT INTERMEDIATE POINTS AND ON COMPLETION OF ENDURANCE TESTING

No.	CHARACTERISTICS	SYMBOL	SPEC. AND/OR TEST METHOD	TEST CONDITIONS (Note1)	ABSOLUTE		UNIT
					MIN.	MAX.	
1	Reverse Current All variant	I_R	As per Table 2	As per Table 2		500	µA
2	Forward Voltage Drop 1 All variant	V_{F1}	As per Table 2	As per Table 2 (Note2)		520	mV
3	Forward Voltage Drop 2 All variant	V_{F2}	As per Table 2	As per Table 2 (Note2)		690	mV
4	Forward Voltage Drop 3 Variant 01 Variant 02	VF3	As per Table 2	As per Table 2 (Note2)		650 630	mV
5	Forward Voltage Drop 4 Variant 01 Variant 02	VF4	As per Table 2	As per Table 2 (Note2)		820 750	mV

NOTES

1 Measurements per each diode.

2 Pulsed measurement : Pulse width ≤ 300us , Duty cycle ≤ 2%.