DOCUMENT CHANGE REQUEST

DCR number 964	Changes required for: General	Originator: Steve Thacker	
Date: 2016/02/05	Date sent: 2015/12/02	Organisation: ESCC Executive Secretariat	
Status: IMPLEMENTED			

Title:	Transistors Low Power NPN, based on type 2N2222A		
Number:	5201/002	Issue:	6

Other documents affected:

Page:

5, 6, 12, 19

Paragraph:

1.4.2, 1.5, 2.4.1, 2.9.2

Original wording:

See 5201/002 issue 6

Proposed wording:

Change the Collector-Emitter Voltage characteristics for ESCC qualified variants (Variants 01, 02, 04, 05, 11 12) to be 50V (was 40V)
i.e.:
Para 1.4.1: change V(BR)CEO min to 50V for Variants 01, 02, 04, 05, 11 12 (was 40V)
Para 1.5: change VCEO rating to 50V for Variants 01, 02, 04, 05, 11 12 (was 40V)
Para 2.4.1: change V(BR)CEO at IC = 30mA to 50V minimum for Variants 01, 02, 04, 05, 11 12 (was 40V)
Para 2.9.2: change V(BR)CEO at IC = 30mA to 50V minimum for Variants 01, 02, 04, 05, 11 12 (was 40V)

Justification:

The 40V VCEO value specified for ESCC qualified variants (01, 02, 04, 05, 11 12) differs to that of the non-qualified ESCC Variants (06 07 09 10)(50V). These is no known reason for this within ESA or at the ESCC qualified Manufacturer (STMicroelectronics) due to the age of the original ESA/SCC qualification.

STMicroelectronics who are also MIL qualified for this same components per MIL-PRF-19500/255 (JANSR), have confirmed there is no technical reason why the ESCC component should not be rated at 50V (both ESCC & MIL qualified components use the same semiconductor die).

Attachments:

N/A

Modifications:

In order to make this ESCC 5201/002 consistent with the requirements specified in MIL-PRF-19500/255, as both ESCC & MIL components use the same semiconductor die and hence are effectively the same component, the following additional changes are included in this DCR:

Note: ST have confirmed that none of the following changes would results in any negative impact on the ESCC qualification or on the customers' use of these ESCC components.

A) Removal of the non-QPL Variants 06, 07, 09 & 10 in all places (Paras 1.4.2, 1.5, 1.7, 2.4.1, 2.9.2).

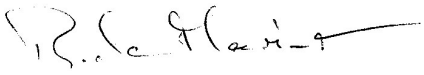
B) For the ESCC qualified variants (01, 02, 04, 05, 11, 12), in order to be consistent with MIL-PRF-19500/255, the following changes shall apply:
1) Para 2.4.1, The IC current test condition for V(BR)CEO is changed to IC = 10mA (was 30mA)

2) Para 2.4.1, The Small-Signal Forward-Current Transfer Ratio limit /hfe/ = changed to 2.5 min (was 3 min to 10 max)

3) Para 2.4.1 Note 1, The pulse measurement conditions changed to pulse width 25ms (was 300µs)

Note – The ESCC qualification certificate #233 currently states VCEO = 40V for 2N2222A. This will need to be amended to 50V once this DCR has been approved.

Approval signature:



Date signed:

2016-02-05