DOCUMENT CHANGE REQUEST

DCR number 514	Changes required for: General	Originator: S Jeffery - ESCC
Date: 2009/05/06	Date sent: 2009/05/06	Organisation: ESA/ESTEC
Status: IMPLEMENTED		

Title:	Transistors High Power NPN, based on types 2N5664 through 2N5667		
Number:	5203/038	Issue:	2

Other documents affected:

Page:

See attachment

Paragraph:

See attachment

Original wording:

Proposed wording:

Update the Maximum Ratings table (see the attachment for details) so that this detail spec is clear, complete and the content and format is in-line with other detail specifications for similar Part Types.

Justification:

Improve the content and clarity of the spec.

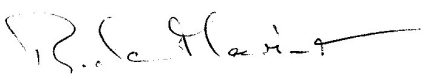
Attachments:

5203038_Issue_3_-_Draft_A.pdf, null

Modifications:

Page 6: Original Note 2 to Maximum Ratings – add “, and any handling,” between “testing” and “performed”.

Approval signature:



Date signed:

2009-05-06

European Space Components Coordination

Pages 1 to 20

TRANSISTORS, HIGH POWER, NPN

BASED ON TYPE 2N5664, 2N5665, 2N5666 AND 2N5667

ESCC Detail Specification No. 5203/038

as applicable

Issue ~~2~~ 3 - Draft A	~~April 2008~~

Document Custodian: European Space Agency - see https://escies.org

as applicable

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DOCUMENTATION CHANGE NOTICE

(Refer to https://escies.org for ESCC DCR content)

DCR No.	CHANGE DESCRIPTION
~~375~~ tbd	Specification up issued to incorporate editorial and technical changes per DCR.

1.5 MAXIMUM RATINGS

The maximum ratings shall not be exceeded at any time during use or storage.
Maximum ratings shall only be exceeded during testing to the extent specified in this specification and when stipulated in Test Methods and Procedures of the ESCC Generic Specification.

Characteristics	Symbols	Maximum Ratings	Unit	Remarks
Collector-Base Voltage Variants 01, 02, 05, 06, 09, 10 Variants 03, 04, 11	V_{CBO}	 250 400	V	Over T_{op}
Collector-Emitter Voltage Variants 01, 02, 05, 06, 09, 10 Variants 03, 04, 11	V_{CEO}	 200 300	V	Over T_{op} Note 2
Emitter-Base Voltage	V_{EBO}	6	V	Over T_{op}
Collector Current	I_C	5	A	Continuous Note 2
Base Current	I_B	1	A	Continuous
~~Power Dissipation~~ ~~For TO-66~~ ~~For TO-5 and TO-39~~	~~P_{tot}~~	 30 15	~~W~~	~~At $T_{case} \leq$ +100°C~~ Note 1
Operating Temperature Range	T_{op}	-65 to +200	°C	Note 1
Storage Temperature Range	T_{stg}	-65 to +200	°C	Note 1
Soldering Temperature	T_{sol}	+260	°C	Note 3
~~Thermal Resistance~~ ~~Junction to Case~~ ~~For TO-66~~ ~~For TO-5 and TO-39~~	~~$R_{th(j-c)}$~~	 3.3 6.7	~~°C/W~~	

See attached

NOTES:

~~1. For T_{case} > +100°C, derate linearly to 0W at +200°C.~~

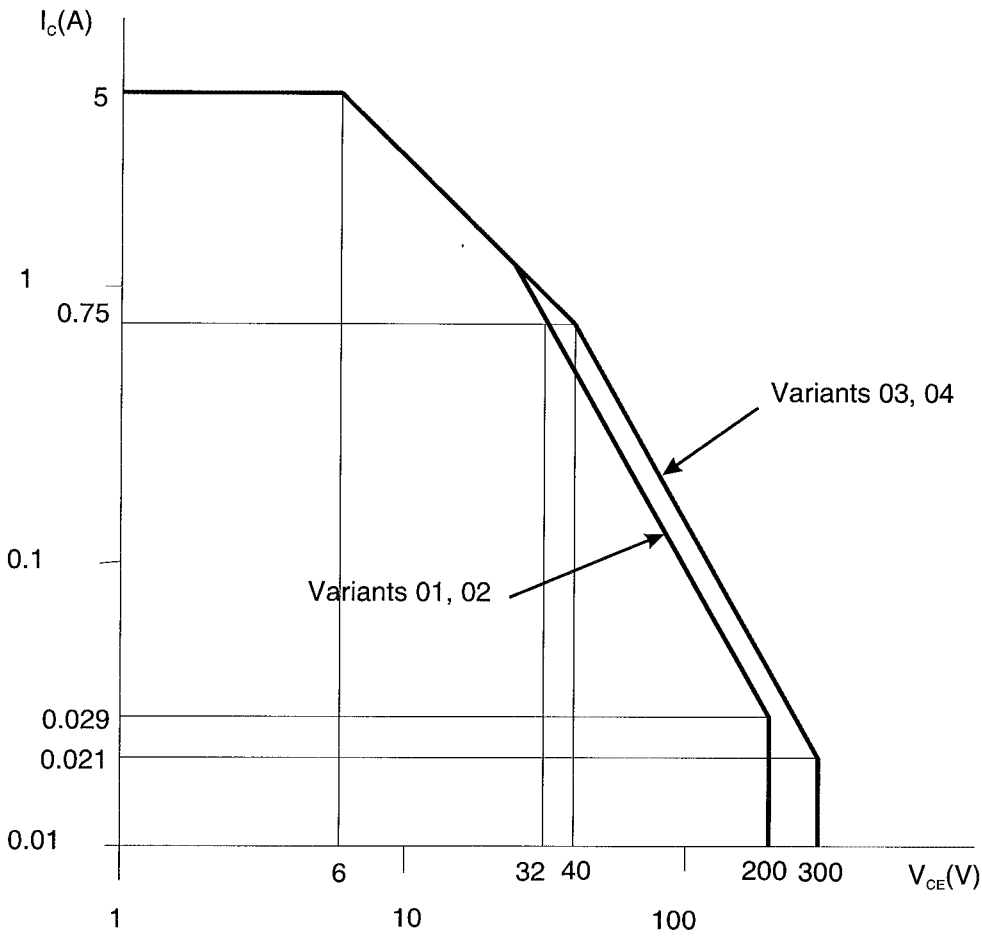
1. 2. For Variants with tin-lead plating or hot solder dip lead finish all testing performed at T_{amb} > +125°C

Power Dissipation For TO-66 For TO-5 and TO-39	P_{tot1}	 2.5 1.2	W	At $T_{amb} \leq +25°C$
 For TO-66 For TO-5 and TO-39	P_{tot2}	 30 15	W	At $T_{case} \leq +100°C$
Thermal Resistance, Junction-to-Ambient For TO-66 For TO-5 and TO-39	$R_{th(j-a)}$	 70 145.8	°C/W	
Thermal Resistance, Junction-to-Case For TO-66 For TO-5 and TO-39	$R_{th(j-c)}$	 3.3 6.7	°C/W	

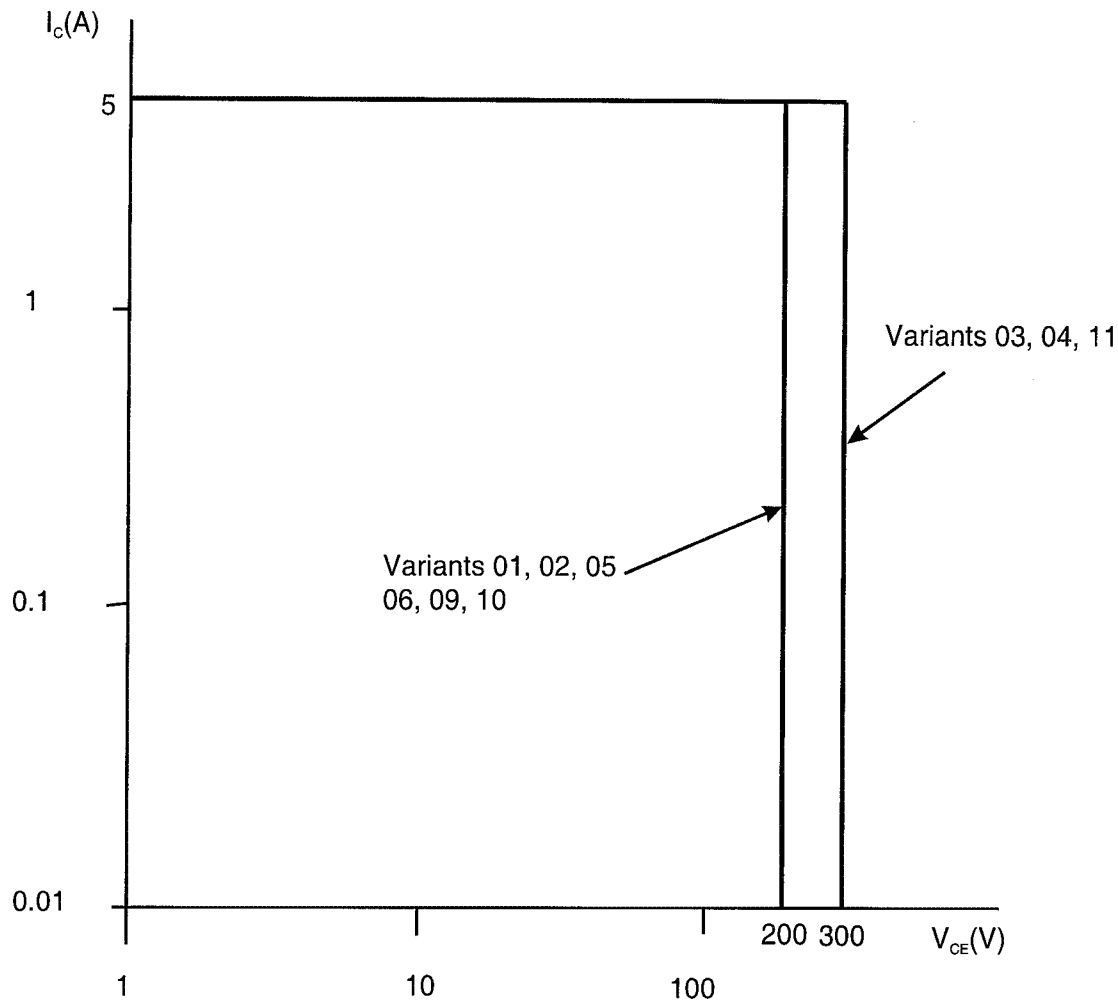
shall be carried out in a 100% inert atmosphere.

2. Safe Operating Area applies as follows:

Maximum Safe Operating Area Graph (Continuous DC) for Variants 01 to 04



Maximum Safe Operating Area Graph (Continuous DC) for Variants 05, 06, 09, 10 and 11



3. Duration 10 seconds maximum at a distance of not less than 1.5mm from the device body and the same lead shall not be resoldered until 3 minutes have elapsed.

1.6 PHYSICAL DIMENSIONS AND TERMINAL IDENTIFICATION

Consolidated notes are given following the case drawings and dimensions.