



## DOCUMENT CHANGE REQUEST

DCR number 511 Changes required for: General

Date: 2009/05/06

Date sent: 2009/05/06

Originator: S Jeffery - ESCC

Organisation: ESA/ESTEC

Status: IMPLEMENTED

Title: Transistors Power NPN, based on type 2N2880

Number: 5203/025

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:

5203025\_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



Pages 1 to 18

## TRANSISTORS, HIGH POWER, NPN

**BASED ON TYPE 2N2880**

**ESCC Detail Specification No. 5203/025**

as applicable

Issue 3 - Draft A	May 2008
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Document Custodian: European Space Agency - see <https://escies.org>



as applicable

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DCR No.	CHANGE DESCRIPTION
<del>338</del>	Specification up issued to incorporate editorial and technical changes per DCR.

hbd

### 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	$V_{CB}$	110	V	Over $T_{op}$
Collector-Emitter Voltage	$V_{CE}$	80	V	Over $T_{op}$
Emitter-Base Voltage	$V_{EB}$	8	V	Over $T_{op}$
Collector Current	$I_C$	5	A	Continuous Note 2
Base Current	$I_B$	500	mA	Continuous
Power Dissipation	$P_{tot}$	20	W	At $T_{case} \leq +100^{\circ}C$ <del>Note 1</del>
Operating Temperature Range	$T_{op}$	-65 to +200	$^{\circ}C$	Note 1
Storage Temperature Range	$T_{stg}$	-65 to +200	$^{\circ}C$	Note 1
Soldering Temperature	$T_{sol}$	+260	$^{\circ}C$	Note 3
Thermal Resistance,	$R_{th(j-c)}$	5	$^{\circ}C/W$	

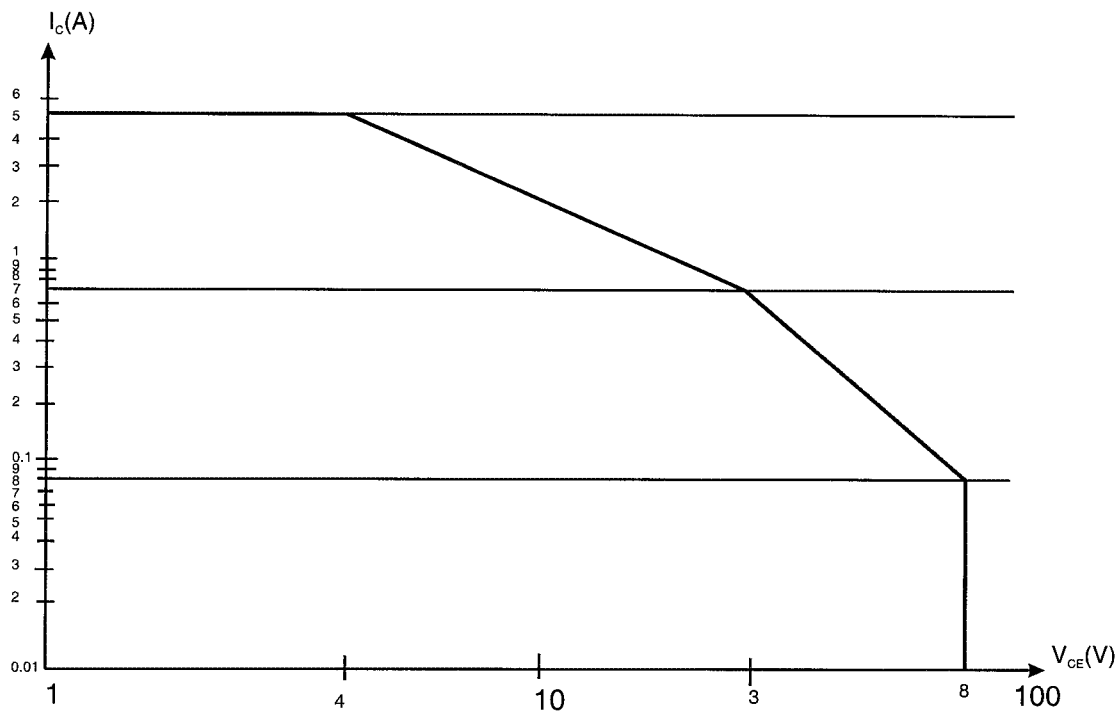
#### NOTES:


- For  $T_{case} > +100^{\circ}C$ , derate linearly to 0W at  $+200^{\circ}C$
1. For Variants with tin-lead plating or hot solder dip lead finish all testing performed at  $T_{amb} > +125^{\circ}C$

Junction-to-Case

2.  shall be carried out in a 100% inert atmosphere.  
Safe operating area (continuous DC) applies as follows:

#### MAXIMUM SAFE OPERATING AREA GRAPH



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 HANDLING PRECAUTIONS

The TO-257 packages specified herein contain Beryllium Oxide (BeO) and therefore they must not be ground, machined, sandblasted or subjected to any mechanical operation which will produce dust. Their cases must not be subjected to any chemical processes (e.g. etching) which will produce fumes.

#### 1.7 PHYSICAL DIMENSIONS AND TERMINAL IDENTIFICATION

Consolidated notes follow the case drawings and dimensions.