



Pages 1 to 13

## TRANSISTORS, HIGH POWER, NPN

BASED ON TYPE 2N5672

ESCC Detail Specification No. 5203/004

as applicable

Issue <del>2</del> 3 - Draft A	February <del>2008</del>
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as applicable

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**DOCUMENTATION CHANGE NOTICE**

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DCR No.	CHANGE DESCRIPTION
<del>187, 231</del>	Specification up issued to incorporate editorial and technical changes per DCR 5.

447, TBD

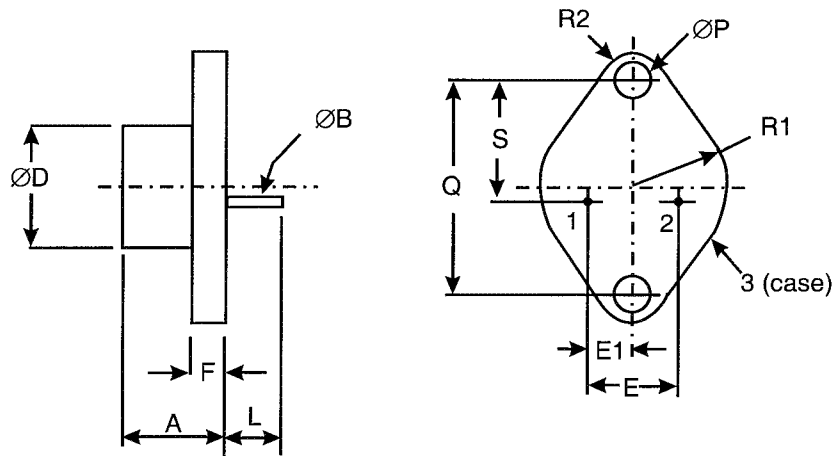
Thermal Resistance, Junction-to-Case	$R_{th(j-c)}$	1.25	$^{\circ}C/W$	
Characteristics	Symbols	Maximum Ratings	Unit	Remarks
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	150	V	Over $T_{op}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	120	V	Over $T_{op}$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	7	V	Over $T_{op}$
Collector Current	$I_C$	30	A	
Base Current	$I_B$	10	A	
Power Dissipation	$P_{tot}$	140	W	At $T_{case} \leq +25^{\circ}C$ <del>Note 1</del>
Operating Temperature Range	$T_{op}$	-65 to +200	$^{\circ}C$	Note <del>1</del> 1
Storage Temperature Range	$T_{stg}$	-65 to +200	$^{\circ}C$	Note <del>1</del> 1
Soldering Temperature	$T_{sol}$	+260	$^{\circ}C$	Note <del>2</del> 2

**NOTES:**

- ~~1.~~ For  $T_{case} > +25^{\circ}C$ , 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  $T_{amb} > +125^{\circ}C$  shall be carried out in a 100% inert atmosphere.
2. 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

Metal Flange Mount Package (TO-3) - 2 lead



Symbols	Dimensions mm		Notes
	Min	Max	
A	6.35	11.43	
ØB	0.97	1.09	2
ØD	-	22.23	

Characteristics	Symbols	Limits		Units	
		Drift Value $\Delta$	Absolute		
			Min		Max
Collector-Emitter Cut-off Current	$I_{CEO}$	$\pm 500$ or (1) $\pm 100\%$	-	10000	$\mu A$
Forward-Current Transfer Ratio 2	$h_{FE2}$	$\pm 15\%$	20	100	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$\pm 15\%$	-	750	mV

**NOTES:**

1. Whichever is greater, referred to the initial value.

2.6 **INTERMEDIATE AND END-POINT ELECTRICAL MEASUREMENTS**

Unless otherwise specified, the measurements shall be performed at  $T_{amb} = +22 \pm 3^{\circ}C$ .

The test methods and test conditions shall be as per the corresponding test defined in Room Temperature Electrical Measurements.

The limit values for each characteristic shall not be exceeded.

Characteristics	Symbols	Limits		Units
		Min	Max	
Collector-Emitter Cut-off Current	$I_{CEO}$	-	10	mA
Forward-Current Transfer Ratio 2	$h_{FE2}$	20	100	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	750	mV

2.7 **POWER BURN-IN CONDITIONS**

Characteristics	Symbols	Conditions	Units
Case Temperature	$T_{case}$	+100 (+0 -5)	$^{\circ}C$
Power Dissipation	$P_{tot}$	As per Maximum Ratings, $P_{tot}$ derated at the specified $T_{case}$	W
Collector-Base Voltage	$V_{CB}$	20	V

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2.8 **OPERATING LIFE CONDITIONS**

The conditions shall be as specified for Power Burn-in.

using the specified  $R_{th(j-c)}$ .



**APPENDIX 'A'**

**AGREED DEVIATIONS FOR STMICROELECTRONICS (F)**

ITEMS AFFECTED	DESCRIPTION OF DEVIATIONS
Deviations from Room Temperature Electrical Measurements	All AC characteristics (Room Temperature Electrical Measurement Note 2) may be considered guaranteed but not tested if successful pilot lot testing has been performed on the wafer lot which includes AC characteristic measurements per the Detail Specification. A summary of the pilot lot testing shall be provided if required by the Purchase Order.
Deviations from High and Low Temperatures Electrical Measurements	All characteristics specified may be considered guaranteed but not tested if successful pilot lot testing has been performed on the wafer lot which includes characteristic measurements at high and low temperatures per the Detail Specification. A summary of the pilot lot testing shall be provided if required by the Purchase Order.
Deviations from Screening Tests - chart F3	Solderability is not applicable unless specifically stipulated in the Purchase Order.

(Approved DCR 447 refers)