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# Transistors

## Manufacturers

<a href="https://www.panjit.com.tw/en">https://www.panjit.com.tw/en</a>	PANJIT	 China	
<a href="http://www.unisonic.com.tw/english/index.asp">http://www.unisonic.com.tw/english/index.asp</a>	UTC	 China	
<a href="http://www.sinopowersemi.com/">http://www.sinopowersemi.com/</a>	Sinopower	 China	
<a href="https://www.21yangjie.com/eng/">https://www.21yangjie.com/eng/</a>	Yangjie	 China	<a href="https://www.electronshtk.ru/brand/YJ">https://www.electronshtk.ru/brand/YJ</a>
<a href="https://way-on.com/en_index.html">https://way-on.com/en_index.html</a>	WAYON	 China	<a href="https://www.electronshtk.ru/brand/WAYON">https://www.electronshtk.ru/brand/WAYON</a>
<a href="http://www.goford.cn/products.php?Catelid=3">http://www.goford.cn/products.php?Catelid=3</a>	Goford	 China	
<a href="http://www.vbsemi.com/">http://www.vbsemi.com/</a>	VBsemi		

## MOSFET driver

link	ext	description	manufacturer	version	date	lang
<a href="#">ADP3121-D.PDF</a>	PDF	<b>ADP3121</b> Onsemi Dual Bootstrapped, 12 V MOSFET Driver with Output Disable	Onsemi	rev.1	2010.02	EN
<a href="#">ADP3110A-D.PDF</a>	PDF	<b>ADP3110A</b> Onsemi Dual Bootstrapped, 12 V MOSFET Driver with Output Disable	Onsemi	rev.4	2008.08	EN
<a href="#">ADP3120A-D.PDF</a>	PDF	<b>ADP3120A</b> Onsemi Dual Bootstrapped, 12 V MOSFET Driver with Output Disable	Onsemi	rev.5	2018.08	EN

## MOSFET

### Question:

Two conditions are described for the total dissipation parameter in the power ratings of a power transistor or a power MOS FET:  $T_a = 25^\circ\text{C}$  and  $T_c = 25^\circ\text{C}$ . What is the difference between these conditions?

### Answer:

The specification at  $T_a = 25^\circ\text{C}$  in the power ratings refers to the total power dissipation of a discrete semiconductor element in an environment with an ambient temperature of  $25^\circ\text{C}$ . In this case, the thermal resistance from the heat source to the ambient air is expressed as **Rth(j-a)**.

The specification at  $T_c = 25^\circ\text{C}$  in the power ratings refers to the total power dissipation when the semiconductor element (case) itself has been forcibly cooled, i.e., when temperature of the package surface is kept at  $25^\circ\text{C}$ . Note that the ratings may include the note «with infinite heat sink». However, in actual use, it is very difficult to make the package surface temperature exactly  $25^\circ\text{C}$ , and if you also take derating into account, the allowable power will in fact be somewhere in between  $T_a = 25^\circ\text{C}$  and  $T_c = 25^\circ\text{C}$ .

**T<sub>a</sub>** = Ambient temperature. This is a still air temperature reading for the environment that the semiconductor is in.

**T<sub>c</sub>** = Case temperature. This is the temperature reading of the case of the semiconductor device.

**T<sub>a</sub>** would normally mean the environment is cooled and kept at 25°C whereas **T<sub>c</sub>** would mean the device is forcibly cooled through a directly attached heatsink and cooled to the 25°C.

**T<sub>j</sub>** = Operating Junction temperature. This is the temperature of the device circuit itself under given conditions. **T<sub>j</sub>** must be calculated from the **T<sub>c</sub>** and/or **T<sub>a</sub>**.

**T<sub>jmax</sub>** = Maximum Junction temperature. This is the maximum temperature that the device tolerate.

## MOSFET N-CHANNEL

link	ext	description	manufacturer	version	date	lang
<a href="#">Infineon_BSC034N03LS_G_DataSheet_v02_00_EN-1731101.pdf</a>	pdf	<b>BSC034N03LSG</b> <b>ATMA1</b> INFINEON Транзистор: N-MOSFET; полевой; 30В; 100А; 57Вт; PG-TDSON-8	Infineon	rev. 2.0	2021.06	EN
<a href="#">NTMFS4834N-D.PDF</a>	PDF	<b>NTMFS4834N</b> Onsemi MOSFET - Power, Single, N-Channel, SO-8FL 30 V, 130 A Применяется с ADP3121 на плате Intel DX58S0	Onsemi	rev. 6	2019.05	EN

### Для 1.8В

BSS138, FDV301N, WM02N20G (большая ёмкость), WM02N08G (лучше, но большая ёмкость)

FDV301N лучше BSS138

FDV303N хороший, ёмкость больше, чем FDV301N

## Darlington

[https://ru.wikipedia.org/wiki/составной транзистор](https://ru.wikipedia.org/wiki/составной_транзистор)

