

Dear Customer,

With this INFINEON Technologies Errata Note we would like to inform you about the following

**Change of datasheet values for all TRENCHSTOP™ IGBT6 products in TO220-3 FP package: Thermal Resistance, DC collector current and VCEsat/VF table value**

### Change of datasheet values for all TRENCHSTOP™ IGBT6 products in TO220-3 FP package: Thermal Resistance, DC collector current and VCEsat/VF table value

#### ► Products affected:

Please refer to attached affected product list 1\_cip10194\_a



#### ► Detailed Change Information:

**Subject:** Change of datasheet values for all TRENCHSTOP™ IGBT6 products in TO220-3 FP package: Thermal Resistance, DC collector current and VCEsat/VF table value

**Reason:** The  $R_{th(jc)}$  was adjusted with a new method and the results showed an increased value compared to the  $R_{th(jc)}$  currently present in the datasheet. This change also effects the transient thermal impedance as a function of pulse width figure and the maximum rating of the DC current is calculated for TO220 standard package with the new  $R_{th(jc)}$  values. The VCEsat and VF condition was incorrectly shown in the table value and was changed from the condition 175°C to 150°C.

#### Description: Old

Example for IKA08N65ET6:

DC collector current, limited by $T_{vjmax}^{1)}$ $T_c = 25^\circ\text{C}$ $T_c = 100^\circ\text{C}$	$I_C$	11.0 7.0	A
Pulsed collector current, $t_p$ limited by $T_{vjmax}$	$I_{Cpuls}$	25.0	A
Turn off safe operating area $V_{CE} \leq 650\text{V}$ , $T_{vj} \leq 175^\circ\text{C}$	-	25.0	A
Diode forward current, limited by $T_{vjmax}^{1)}$ $T_c = 25^\circ\text{C}$ $T_c = 100^\circ\text{C}$	$I_F$	14.0 9.0	A

Collector-emitter saturation voltage	$V_{CEsat}$	$V_{GE} = 15.0\text{V}$ , $I_C = 5.0\text{A}$ $T_{vj} = 25^\circ\text{C}$ $T_{vj} = 125^\circ\text{C}$ $T_{vj} = 175^\circ\text{C}$	- - -	1.50 1.65 1.75	1.90 - -	V
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#### Thermal Resistance

Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
R <sub>th</sub> Characteristics						
IGBT thermal resistance, junction - case	R <sub>th(j-c)</sub>		-	-	4.52	K/W
Diode thermal resistance, junction - case	R <sub>th(j-c)</sub>		-	-	5.40	K/W
Thermal resistance junction - ambient	R <sub>th(j-a)</sub>		-	-	65	K/W

### New

Example for IKA08N65ET6:

DC collector current, limited by $T_{vjmax}^{1)}$ $T_c = 25^\circ\text{C}$ $T_c = 100^\circ\text{C}$	$I_c$	16.0 10.0	A
Pulsed collector current, $t_p$ limited by $T_{vjmax}$	$I_{cpuls}$	25.0	A
Turn off safe operating area $V_{CE} \leq 650\text{V}$ , $T_{vj} \leq 175^\circ\text{C}$	-	25.0	A
Diode forward current, limited by $T_{vjmax}^{1)}$ $T_c = 25^\circ\text{C}$ $T_c = 100^\circ\text{C}$	$I_F$	19.5 11.0	A

Collector-emitter saturation voltage	$V_{CEsat}$	$V_{GE} = 15.0\text{V}$ , $I_c = 5.0\text{A}$ $T_{vj} = 25^\circ\text{C}$ $T_{vj} = 125^\circ\text{C}$ $T_{vj} = 150^\circ\text{C}$	- - -	1.50 1.65 1.75	1.90 - -	V
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### Thermal Resistance

Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
R <sub>th</sub> Characteristics						
IGBT thermal resistance, junction - case	R <sub>th(j-c)</sub>		-	-	5.46	K/W
Diode thermal resistance, junction - case	R <sub>th(j-c)</sub>		-	-	6.41	K/W
Thermal resistance junction - ambient	R <sub>th(j-a)</sub>		-	-	65	K/W

### Overview all products:

Product	Chip	Thermal resistance [K/W]		Maximum DC rating $T_c=25^\circ\text{C}$ [A]		Maximum DC rating $T_c=100^\circ\text{C}$ [A]	
		new	old	new	old	new	old
IKA08N65ET6	IGBT	5.46	4.52	16.0	11.0	10.0	7.0
	Diode	6.41	5.40	19.5	14.0	11.0	9.0
IKA10N65ET6	IGBT	4.60	3.71	25.0	15.0	16.0	9.0
	Diode	6.40	5.40	19.5	15.0	11.0	9.0
IKA15N65ET6	IGBT	4.30	3.35	34.0	17.0	21.0	11.0
	Diode	5.80	4.77	24.0	17.0	14.0	10.0

### ► Impact of Change:

The thermal resistance written in the datasheet and the maximum collector current changes. The product performance itself does not change.

### ► Attachments:

Affected product list 1\_cip10194\_a  
Old and new data sheets 3\_cip10194\_a

# ERRATA



N° 10194AERRA

► **Implementation Date:** 2019-09-16

If you have any questions, please do not hesitate to contact your local Sales office.