

Technische Information / Technical Information		eupec				
Dioden-Module Diode-Modules						
DD 400 S 65 K1						
Höchstzulässige Werte / Maximum rated values						
Periodische Spitzensperrspannung repetitive peak reverse voltage	T _{vj} =125°C T _{vj} =25°C T _{vj} =40°C	V _{CES}	6500 6300 5800	V		
Dauergleichstrom DC forward current		I _F	400	A		
Periodischer Spitzenstrom repetitive peak forw. current	t _p = 1 ms	I _{FRM}	800	A		
Grenzlastintegral der Diode I ² t - value, Diode	V _R = 0V, t _p = 10ms, T _{vj} = 125°C	I ² t	87	k A²s		
Isolations-Prüfspannung insulation test voltage	RMS, f = 50 Hz, t = 1 min.	V _{ISOL}	10,2	kV		
Teilentladungs Aussetzspannung partial discharge extinction voltage	RMS, f = 50 Hz, Q _{PD} typ. 10pC (acc. To IEC 1287)	V _{ISOL}	5,1	kV		
Charakteristische Werte / Characteristic values						
			min.	typ.	max.	
Durchlaßspannung forward voltage	I _F = 400A, T _{vj} = 25°C	V _F	3,0	3,8	4,6	V
	I _F = 400A, T _{vj} = 125°C			3,9	4,7	V
Sperrstrom reverse current	V _R = 6300V, T _{vj} = 25°C	I _R	-	0,15	-	mA
	V _R = 6500V, T _{vj} = 125°C		-	15	-	mA
Rückstromspitze peak reverse recovery current	I _F = 400A, - di _F /dt = 1400A/µs	I _{RM}				
	V _R = 3600V, T _{vj} = 25°C		-	540	-	A
	V _R = 3600V, T _{vj} = 125°C		-	660	-	A
Sperrverzögerungsladung recovered charge	I _F = 400A, - di _F /dt = 1400A/µs	Q _r				
	V _R = 3600V, T _{vj} = 25°C		-	360	-	µC
	V _R = 3600V, T _{vj} = 125°C		-	700	-	µC
Abschaltenergie pro Puls reverse recovery energy	I _F = 400A, - di _F /dt = 1400A/µs	E _{rec}				
	V _R = 3600V, T _{vj} = 25°C		-	440	-	mJ
	V _R = 3600V, T _{vj} = 125°C		-	1050	-	mJ
Modulinduktivität stray inductance module	pro Zweig / per arm	L _{sCE}	-	25	-	nH
Modulleitungswiderstand, Anschlüsse - Chip module lead resistance, terminals - chip	pro Zweig / per arm	R _{CC'+EE'}	-	0,37	-	mΩ
prepared by: Dr. Oliver Schilling		date of publication: 2002-07-05				
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Thermische Eigenschaften / Thermal properties

			min.	typ.	max.	
Innerer Wärmewiderstand thermal resistance, junction to case	Diode/Diode, DC	R_{thJC}	-	-	0,032	K/W
Übergangs-Wärmewiderstand thermal resistance, case to heatsink	pro Modul / per Module $\lambda_{Paste} \leq 1 \text{ W/m}^2\text{K} / \lambda_{grease} \leq 1 \text{ W/m}^2\text{K}$	R_{thCK}	-	0,008	-	K/W
Höchstzulässige Sperrschichttemperatur maximum junction temperature		$T_{vj, max}$	-	-	150	°C
Betriebstemperatur Sperrschicht junction operation temperature	Schaltvorgänge Diode(SOA) switching operation Diode(SOA)	$T_{vj, op}$	-40	-	125	°C
Lagertemperatur storage temperature		T_{stg}	-40	-	125	°C

Mechanische Eigenschaften / Mechanical properties

Gehäuse, siehe Anlage case, see appendix				
Innere Isolation internal insulation			AlN	
Kriechstrecke creepage distance			56	mm
Luftstrecke clearance			26	mm
CTI comperative tracking index			>600	
Anzugsdrehmoment f. mech. Befestigung mounting torque	Schraube /screw M6	M	5	Nm
Anzugsdrehmoment f. elektr. Anschlüsse terminal connection torque	Anschlüsse / terminals M8	M	8 - 10	Nm
Gewicht weight		G	1000	g

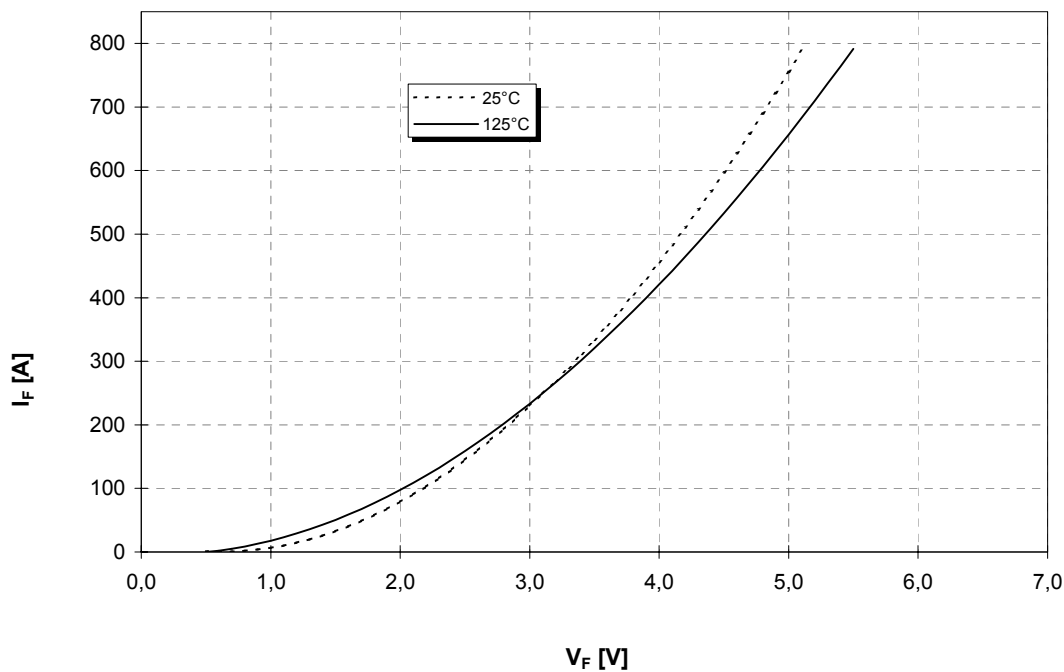
Mit dieser technischen Information werden Halbleiterbauelemente spezifiziert, jedoch keine Eigenschaften zugesichert.
Sie gilt in Verbindung mit den zugehörigen Technischen Erläuterungen.

This technical information specifies semiconductor devices but promises no characteristics. It is
valid in combination with the belonging technical notes.



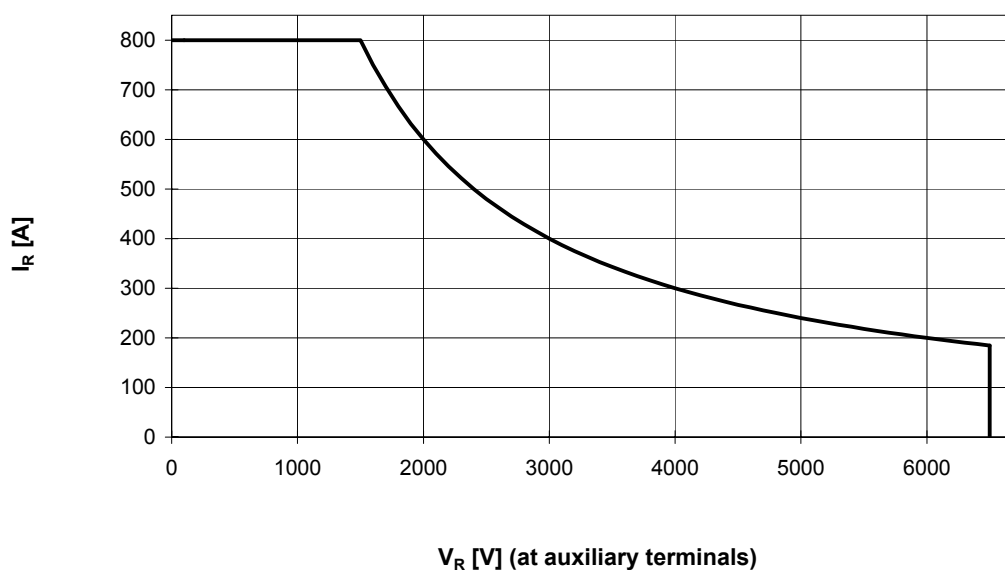
Durchlaßkennlinie der Inversdiode (typisch)
Forward characteristic of inverse diode (typical)

$$I_F = f(V_F)$$



Sicherer Arbeitsbereich Diode (SOA)
safe operation area Diode (SOA)

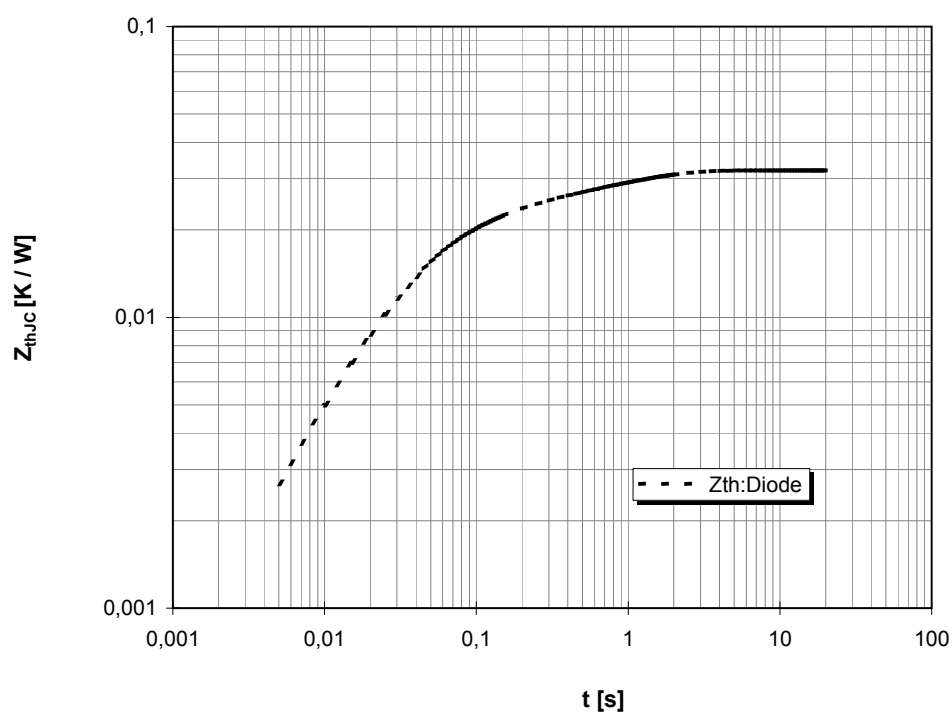
$$P_{\max} = 1200 \text{ kW} ; T_{vj} = 125^\circ\text{C}$$





Transienter Wärmewiderstand
Transient thermal impedance

$$Z_{thJC} = f(t)$$



i		1	2	3	4
r_i [K/kW]	: Diode	14,40	8,00	1,92	7,68
τ_i [s]	: Diode	0,030	0,10	0,30	1,0

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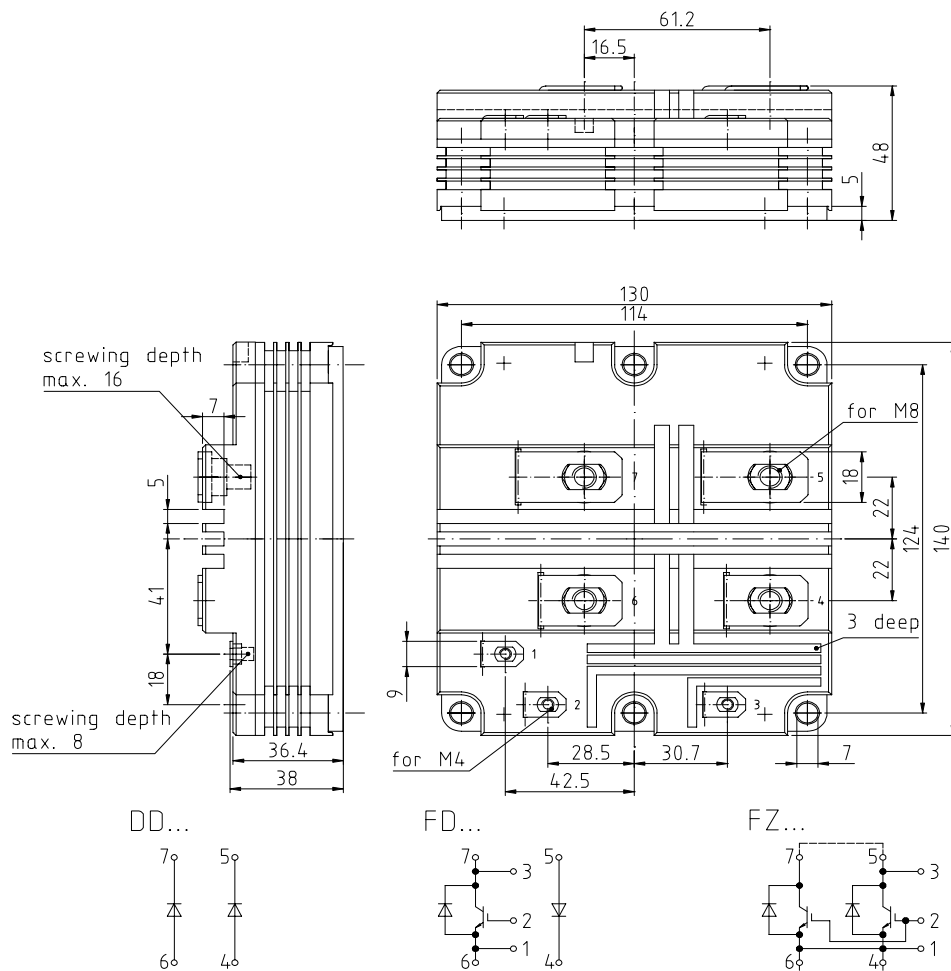
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Äußere Abmessungen / external dimensions



Anschlüsse / Terminals

1	--
2	--
3	--
4,6	Anode / anode
5,7	Kathode / cathode

Terms & Conditions of Usage

Attention

The present product data is exclusively subscribed to technically experienced staff. This Data Sheet is describing the specification of the products for which a warranty is granted exclusively pursuant the terms and conditions of the supply agreement. There will be no guarantee of any kind for the product and its specifications. Changes to the Data Sheet are reserved.

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