Technische Information / Technical Information

Dioden-Module
Diode-Modules

DD 400 S 65 K1

eupec

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^2t - value, Diode	V_R = 0V, t_p = 10ms, T_{Vj} = 125°C	I^2t	87	k A^2s
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					
	V_R = 3600V, T_{vj} = 25°C	I_{RM}	-	540	-	A
	V_R = 3600V, T_{vj} = 125°C		-	660	-	A
Sperrverzögerungsladung recovered charge	I_F = 400A, - di_F/dt = 1400A/µs					
	V_R = 3600V, T_{vj} = 25°C	Q_r	-	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					
	V_R = 3600V, T_{vj} = 25°C	E_{rec}	-	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

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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 $\lambda_{Paste} \leq 1$ W/m*K / $\lambda_{grease} \leq 1$ W/m*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

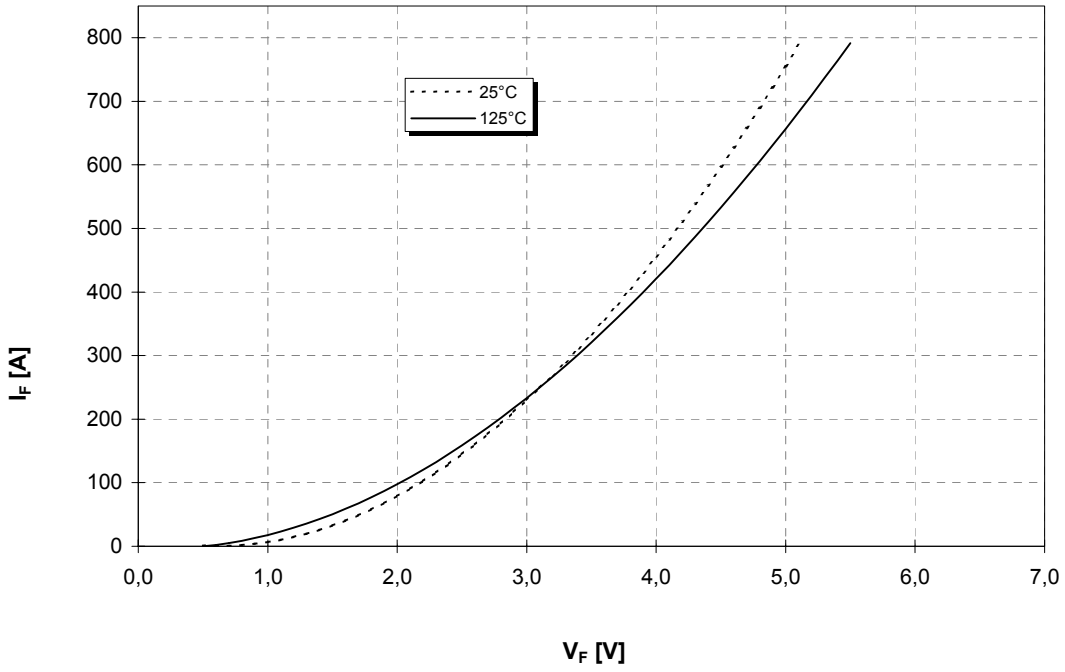
Mechanische Eigenschaften / Mechanical properties

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

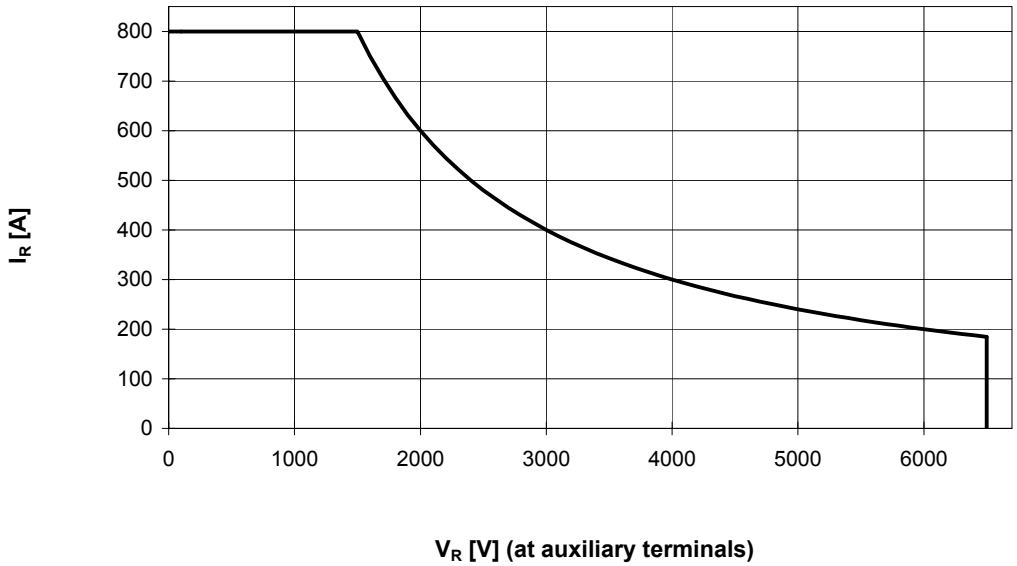
Mit dieser technischen Information werden Halbleiterbauelemente spezifiziert, jedoch keine Eigenschaften zugesichert. Sie gilt in Verbindung mit den zugehörigen Technischen Erläuterungen.

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

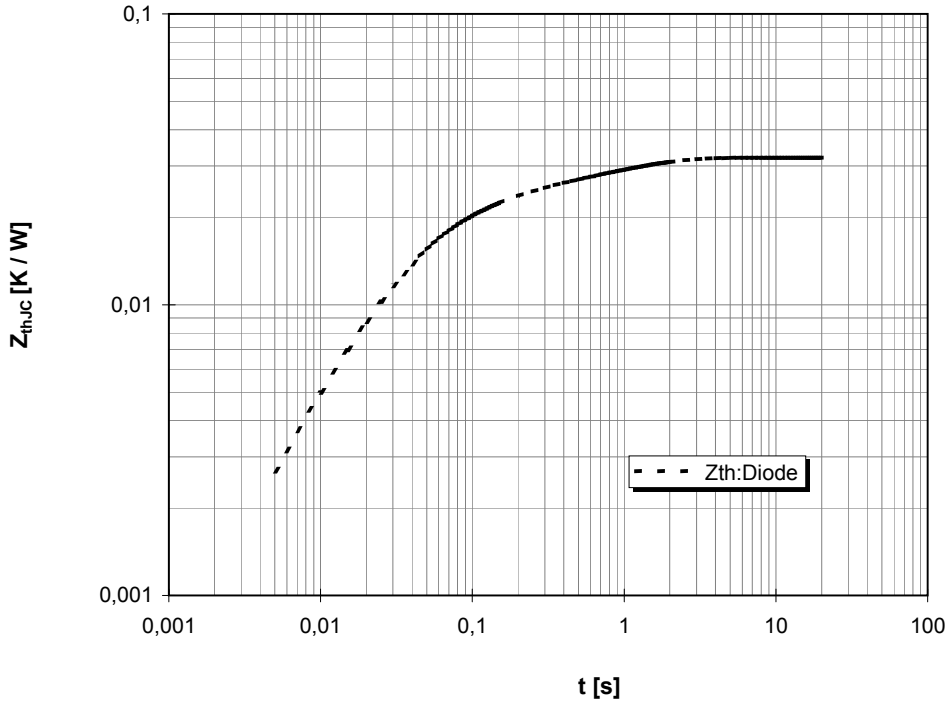
Durchlaßkennlinie der Inversdiode (typisch) $I_F = f(V_F)$
Forward characteristic of inverse diode (typical)



Sicherer Arbeitsbereich Diode (SOA)
safe operation area Diode (SOA) P_{max} = 1200kW ; T_{vj}= 125°C

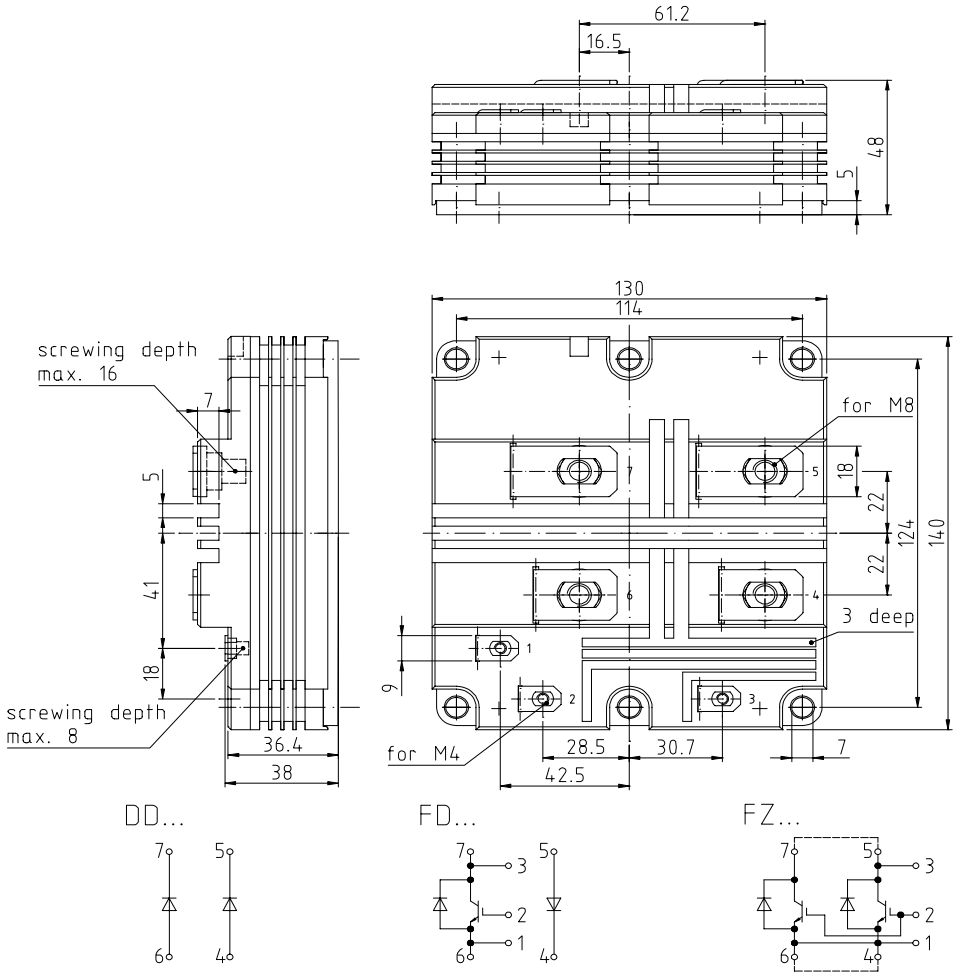


Transienter Wärmewiderstand $Z_{thJC} = f(t)$
Transient thermal impedance



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

Äußere Abmessungen /
extenal dimensions



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

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