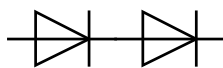
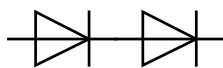
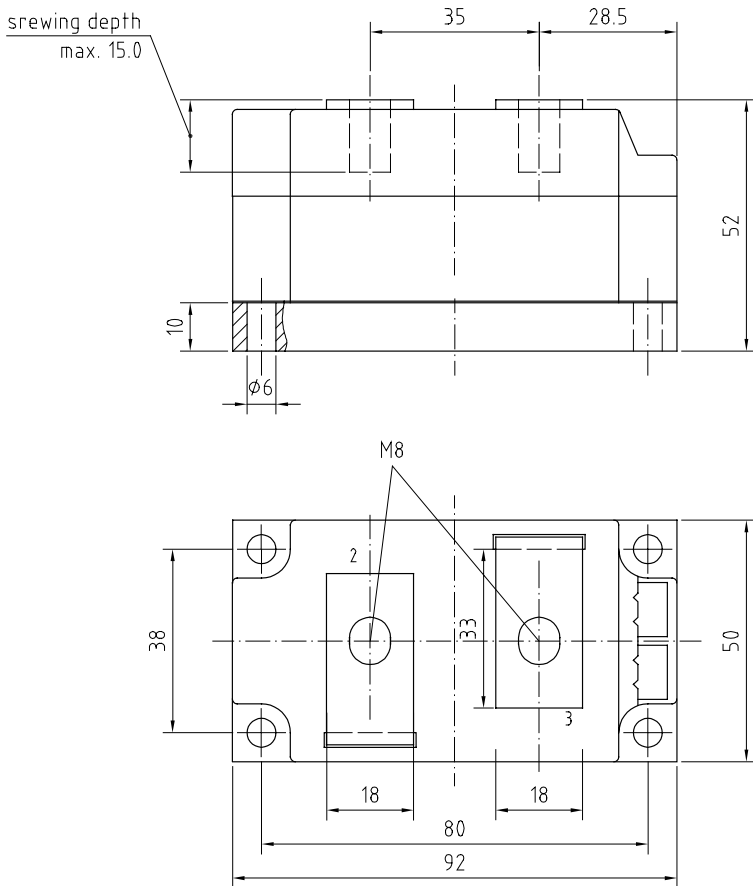
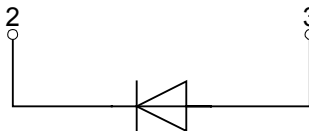
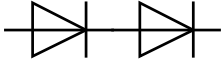


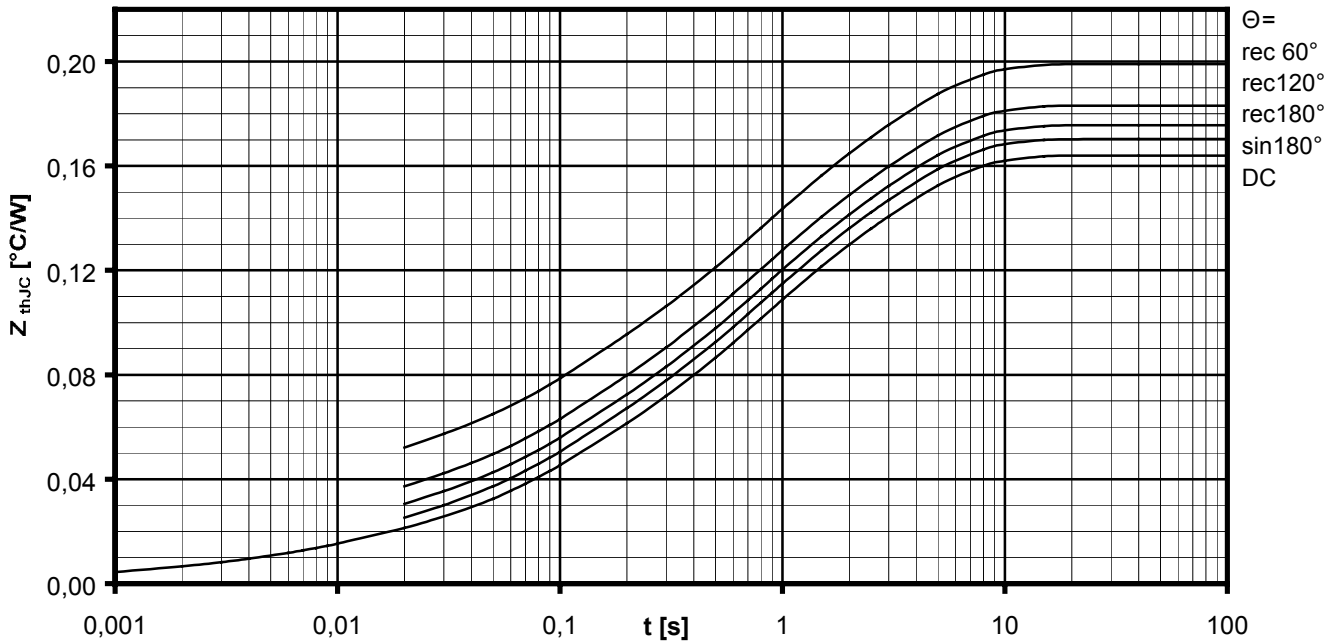
N		Datenblatt / Data sheet		power electronics in motion eupec	
Netz-Dioden-Modul Rectifier Diode Module		ND260N			
ND260N					
Elektrische Eigenschaften / Electrical properties					
Höchstzulässige Werte / Maximum rated values					
Periodische Spitzensperrspannung repetitive peak reverse voltages	$T_{vj} = -40^{\circ}\text{C} \dots T_{vj\text{ max}}$	V_{RRM}	1200 1600	1400 1800	V V ¹⁾
Stoßspitzensperrspannung non-repetitive peak reverse voltage	$T_{vj} = +25^{\circ}\text{C} \dots T_{vj\text{ max}}$	V_{RSM}	1300 1700	1500 1900	V V
Durchlaßstrom-Grenzeffektivwert maximum RMS on-state current		I_{FRMSM}		410	A
Dauergrenzstrom average on-state current	$T_C = 100^{\circ}\text{C}$	I_{FAVM}		260	A
Stoßstrom-Grenzwert surge current	$T_{vj} = 25^{\circ}\text{C}, t_p = 10\text{ ms}$ $T_{vj} = T_{vj\text{ max}}, t_p = 10\text{ ms}$	I_{FSM}		9.500 8.300	A A
Grenzlastintegral I^2t -value	$T_{vj} = 25^{\circ}\text{C}, t_p = 10\text{ ms}$ $T_{vj} = T_{vj\text{ max}}, t_p = 10\text{ ms}$	I^2t		451.000 344.000	A ² s A ² s
Charakteristische Werte / Characteristic values					
Durchlaßspannung on-state voltage	$T_{vj} = T_{vj\text{ max}}, I_F = 800\text{ A}$	V_F	max.	1,32	V
Schleusenspannung threshold voltage	$T_{vj} = T_{vj\text{ max}}$	$V_{(TO)}$		0,7	V
Ersatzwiderstand slope resistance	$T_{vj} = T_{vj\text{ max}}$	r_T		0,68	mΩ
Sperrstrom reverse current	$T_{vj} = T_{vj\text{ max}}, V_R = V_{RRM}$	i_R	max.	30	mA
Isolations-Prüfspannung insulation test voltage	RMS, f = 50 Hz, t = 1 sec RMS, f = 50 Hz, t = 1 min	V_{ISOL}		3,6 3,0	kV kV
Thermische Eigenschaften / Thermal properties					
Innerer Wärmewiderstand thermal resistance, junction to case	pro Modul / per Module, $\Theta = 180^{\circ}$ sin pro Modul / per Module, DC	R_{thJC}	max. max.	0,170 0,164	°C/W °C/W
Übergangs-Wärmewiderstand thermal resistance, case to heatsink	pro Modul / per Module pro Zweig / per arm	R_{thCH}	max.	0,04	°C/W
Höchstzulässige Sperrschichttemperatur maximum junction temperature		$T_{vj\text{ max}}$		150	°C
Betriebstemperatur operating temperature		$T_{c\text{ op}}$		- 40...+150	°C
Lagertemperatur storage temperature		T_{stg}		- 40...+150	°C
1) 1800V auf Anfrage / 1800V on request					
prepared by:	C. Drilling		date of publication:	30.04.03	
approved by:	M. Leifeld		revision:	1	
BIP AC / 87-09-25, K.Spec		A20/87	Seite/page		1/9

N		Datenblatt / Data sheet	power electronics in motion eupec	
Netz-Dioden-Modul Rectifier Diode Module		ND260N		
Mechanische Eigenschaften / Mechanical properties				
Gehäuse, siehe Anlage case, see annex			Seite 3 page 3	
Si-Element mit Druckkontakt Si-pellet with pressure contact				
Innere Isolation internal insulation			AIN	
Anzugsdrehmoment für mechanische Anschlüsse mounting torque	Toleranz ±15%	M1	5	Nm
Anzugsdrehmoment für elektrische Anschlüsse terminal connection torque	Toleranz ±10%	M2	12	Nm
Gewicht weight		G	typ. 700	g
Kriechstrecke creepage distance			24	mm
Schwingfestigkeit vibration resistance	f = 50 Hz		50	m/s²
	file-No.		E 83336	

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Netz-Dioden-Modul Rectifier Diode Module		ND260N			
					
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BIP AC / 87-09-25, K.Spec		A20/87	Seite/page		3/9

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Netz-Dioden-Modul Rectifier Diode Module	ND260N		

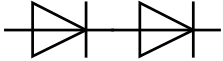
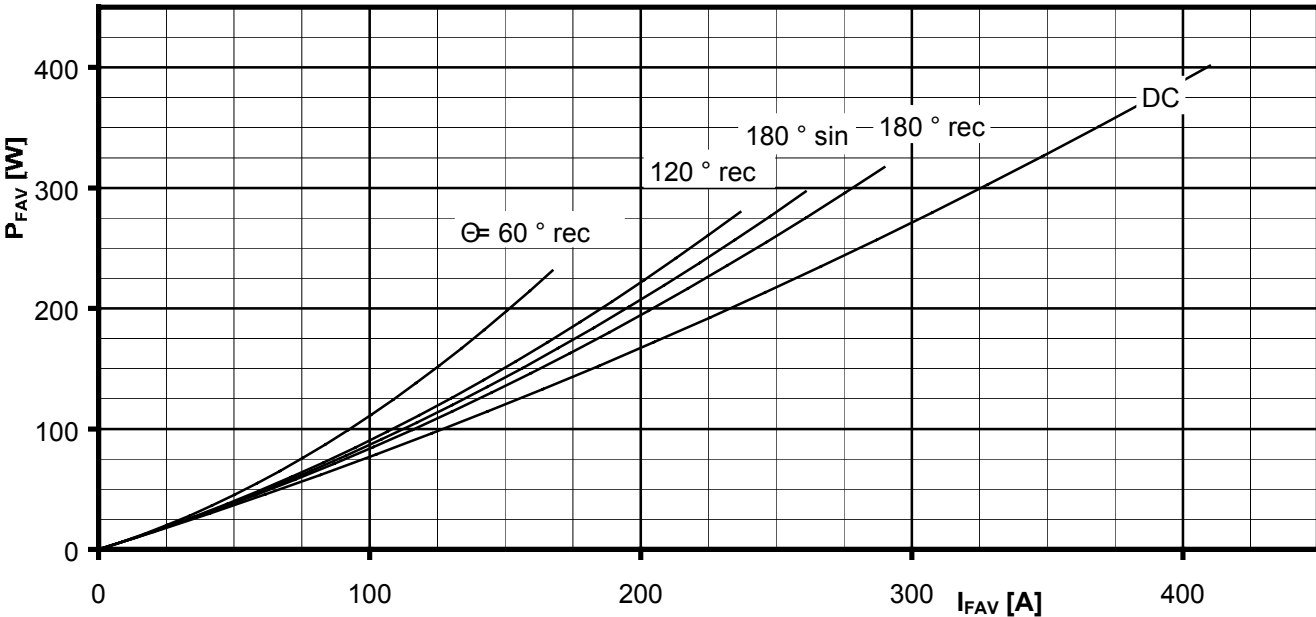
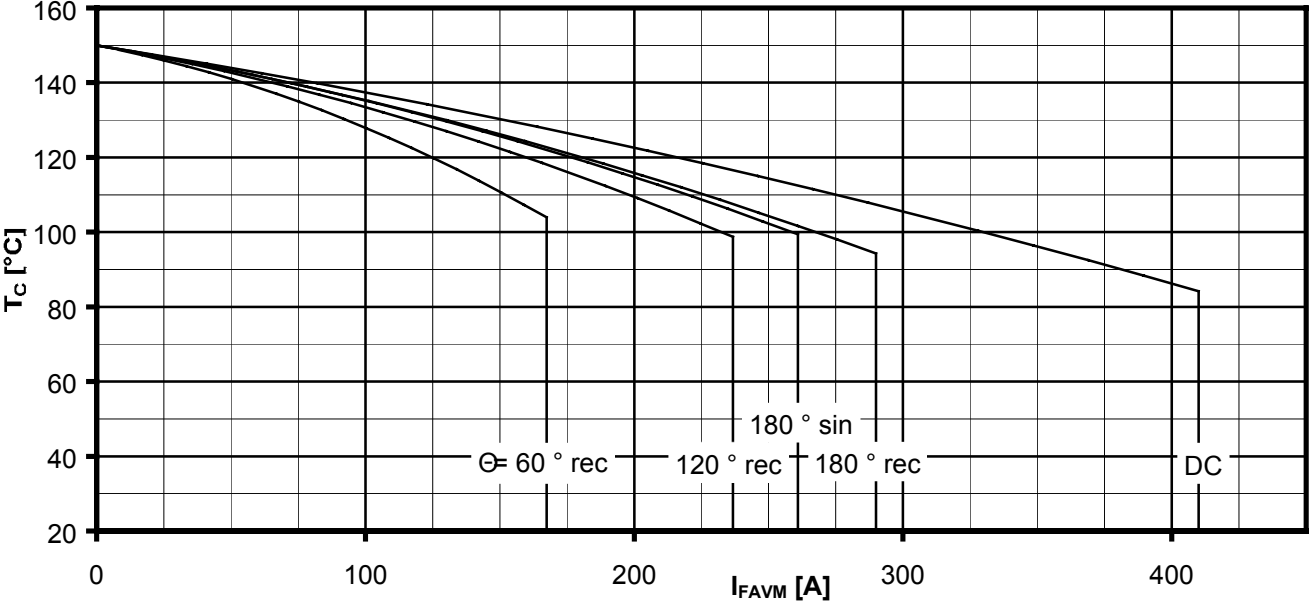
Analytische Elemente des transienten Wärmewiderstandes Z_{thJC} für DC Analytical elements of transient thermal impedance Z_{thJC} for DC							
Pos. n	1	2	3	4	5	6	7
$R_{thn} [^{\circ}C/W]$	0,0039	0,0097	0,0291	0,0552	0,0661		
$T_n [s]$	0,0008	0,008	0,085	0,54	2,85		
Analytische Funktion / Analytical function:				$Z_{thJC} = \sum_{n=1}^{n_{max}} R_{thn} \left(1 - e^{-\frac{t}{\tau_n}} \right)$			

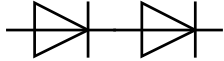
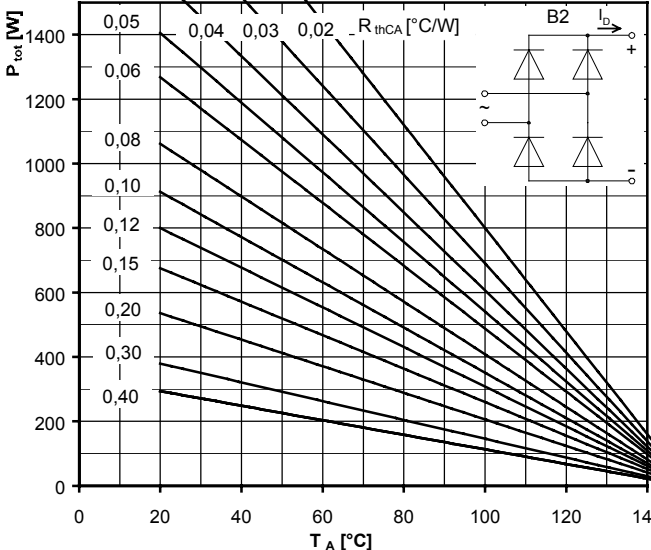
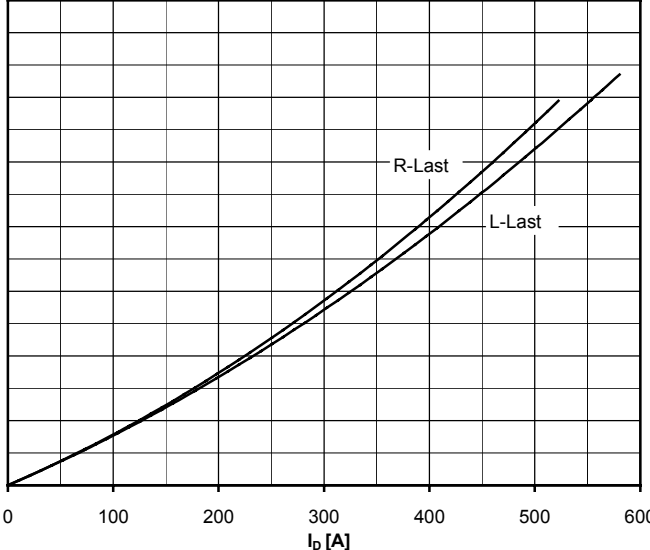
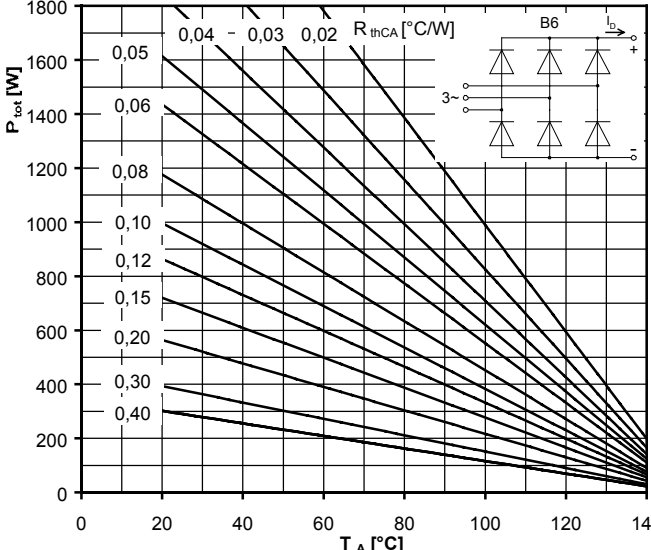
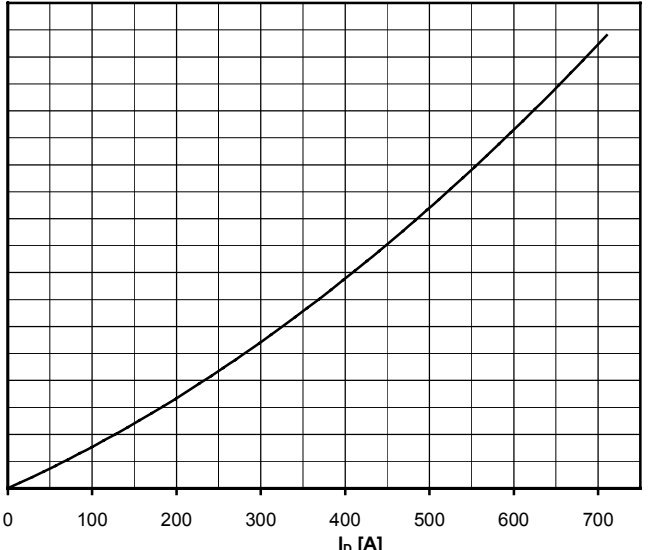


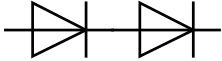
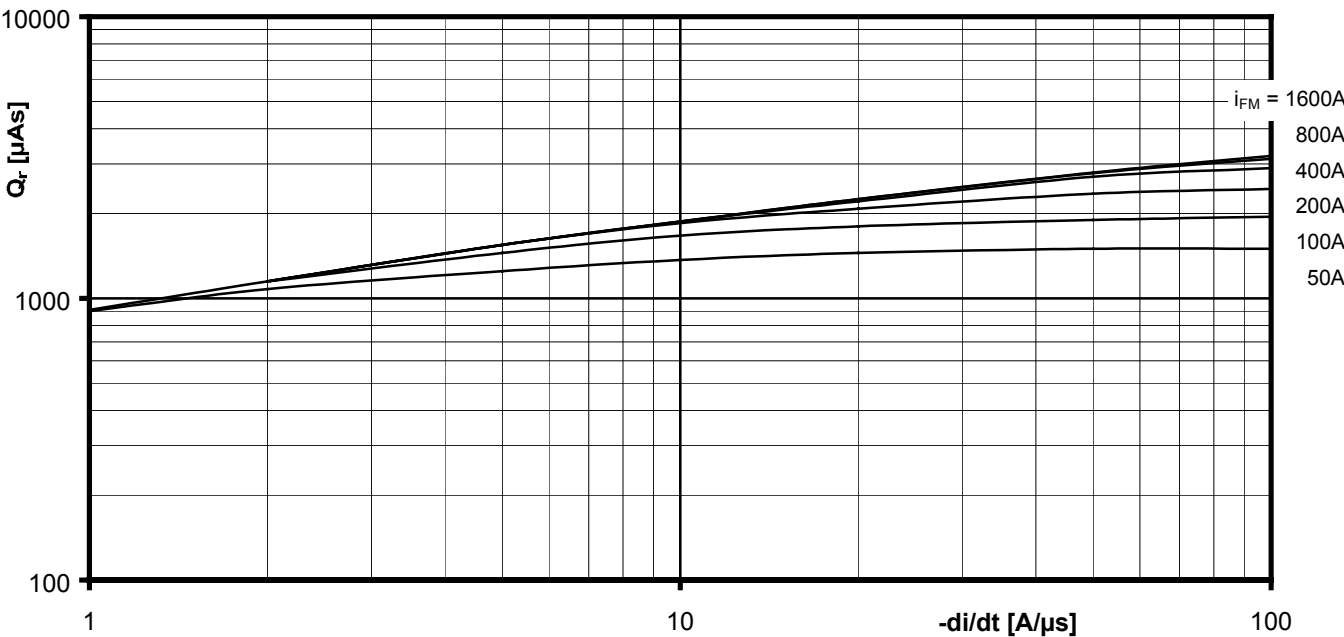
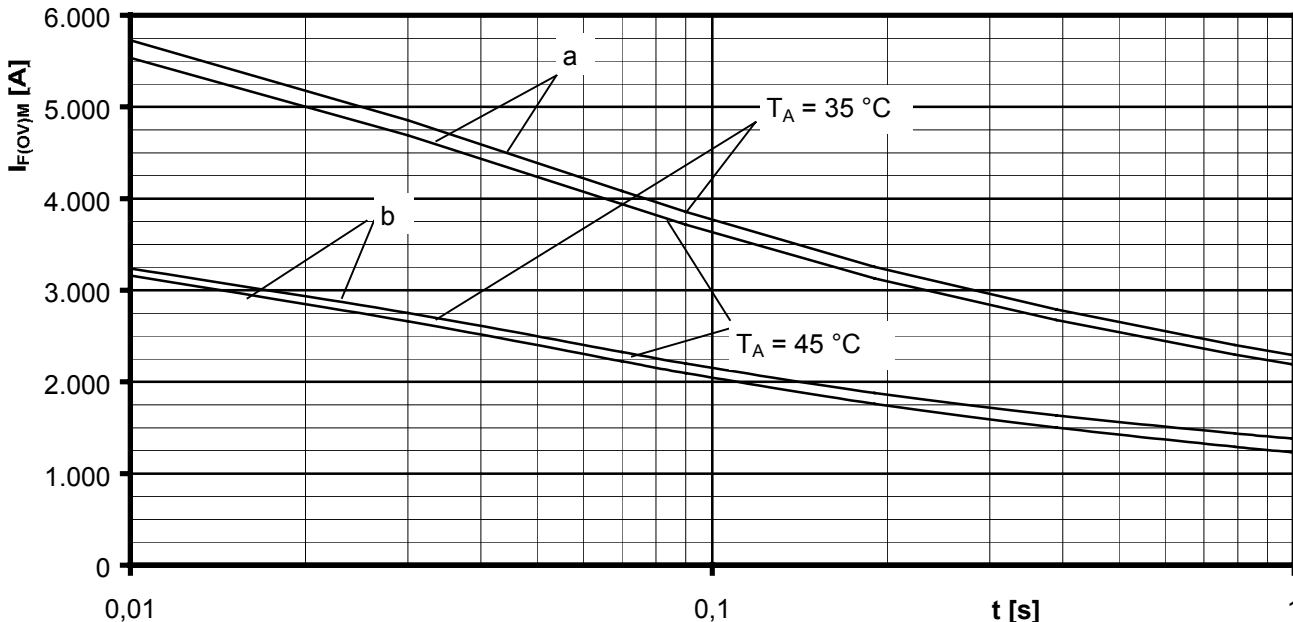
Transienter innerer Wärmewiderstand je Zweig / Transient thermal impedance per arm $Z_{thJC} = f(t)$

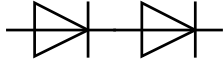
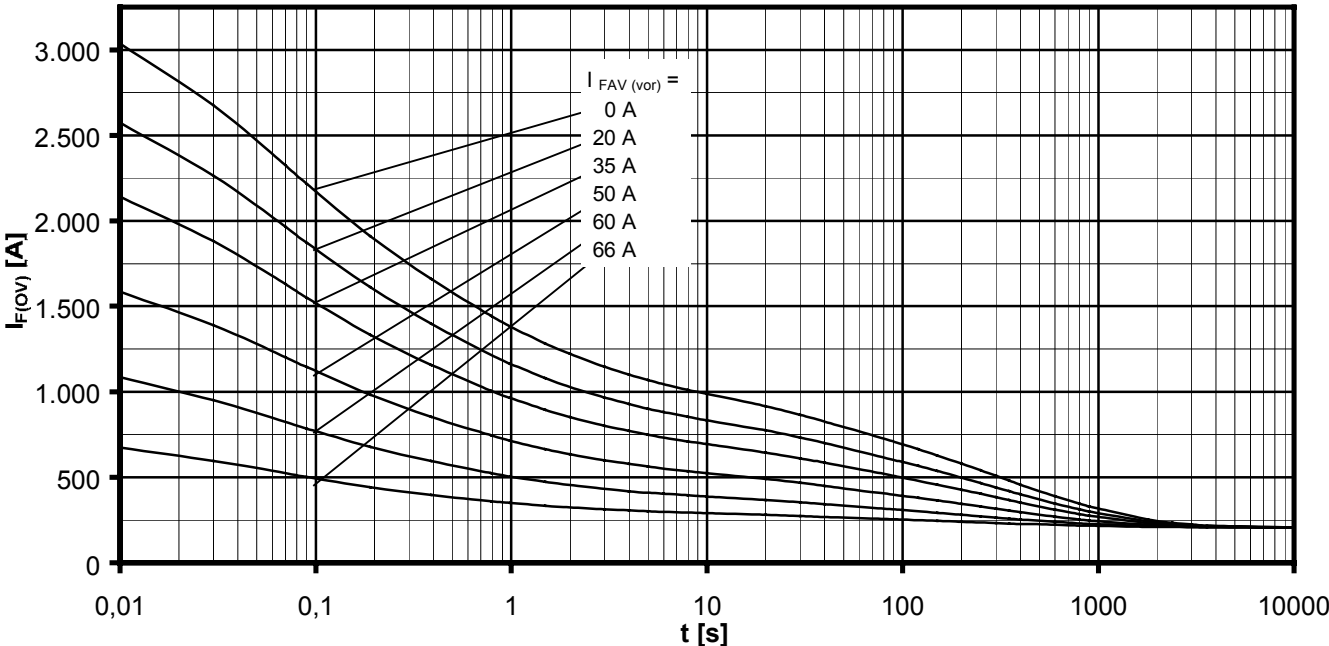
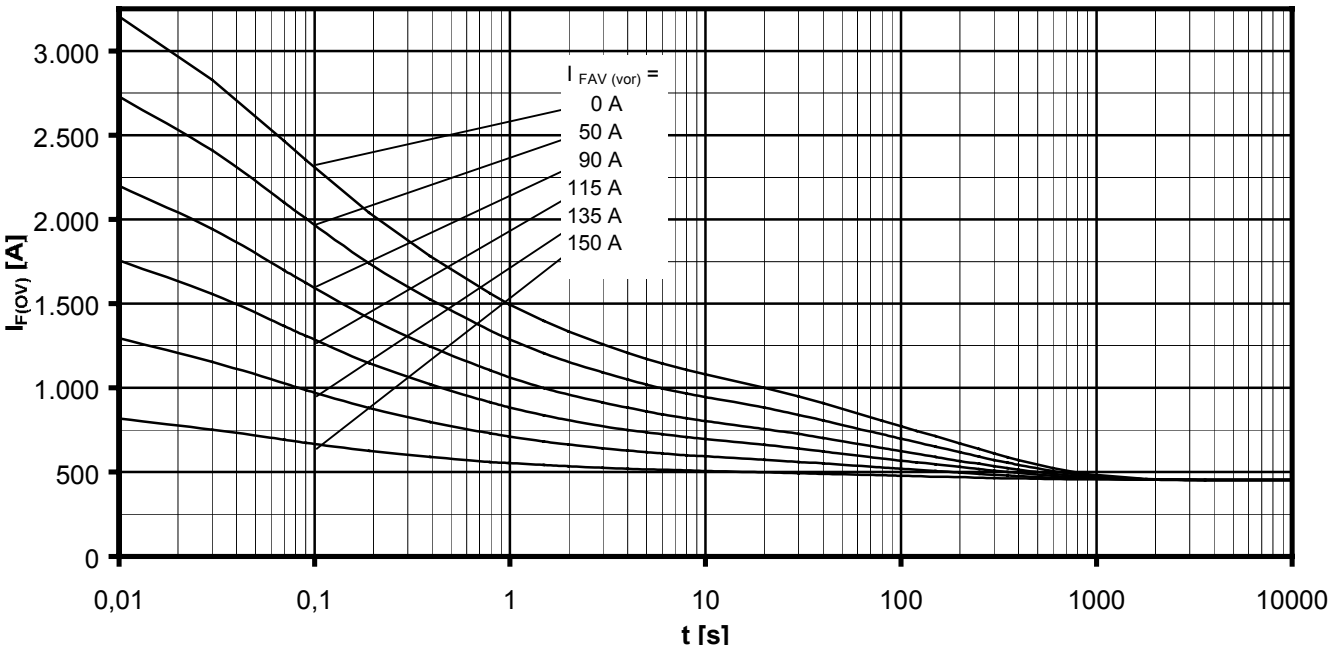
Parameter: Stromflußwinkel Θ / Current conduction angle Θ

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		Netz-Dioden-Modul Rectifier Diode Module		ND260N																																																			
Natürliche Kühlung / Natural cooling 3 Module pro Kühler / x modules per heatsink Kühler / Heatsink type: KM17 (60W) Analytische Elemente des transienten Wärmewiderstandes Z_{thCA} Analytical elements of transient thermal impedance Z_{thCA} <table><tr><td>Pos. n</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr><tr><td>R_{thn} [°C/W]</td><td>0,0205</td><td>0,07905</td><td>1,535</td><td></td><td></td><td></td><td></td></tr><tr><td>T_n [s]</td><td>2,04</td><td>36,4</td><td>1340</td><td></td><td></td><td></td><td></td></tr></table> Verstärkte Kühlung / Forced cooling 3 Module pro Kühler / x modules per heatsink Kühler / Heatsink type: KM17 (Papst 4650) Analytische Elemente des transienten Wärmewiderstandes Z_{thCA} Analytical elements of transient thermal impedance Z_{thCA} <table><tr><td>Pos. n</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr><tr><td>R_{thn} [°C/W]</td><td>0,015</td><td>0,08</td><td>0,475</td><td></td><td></td><td></td><td></td></tr><tr><td>T_n [s]</td><td>4,11</td><td>40,4</td><td>458</td><td></td><td></td><td></td><td></td></tr></table> Analytische Funktion / Analytical function: $Z_{thCA} = \sum_{n=1}^{n_{max}} R_{thn} \left(1 - e^{-\frac{t}{\tau_n}} \right)$								Pos. n	1	2	3	4	5	6	7	R_{thn} [°C/W]	0,0205	0,07905	1,535					T_n [s]	2,04	36,4	1340					Pos. n	1	2	3	4	5	6	7	R_{thn} [°C/W]	0,015	0,08	0,475					T_n [s]	4,11	40,4	458				
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BIP AC / 87-09-25, K.Spec		A20/87		Seite/page		5/9																																																	

N		Datenblatt / Data sheet	power electronics in motion eupec
Netz-Dioden-Modul Rectifier Diode Module		ND260N	
 Durchlassverlustleistung je Zweig / On-state power loss per arm $P_{FAV} = f(I_{FAV})$ Parameter: Stromflußwinkel / Current conduction angle Θ  Höchstzulässige Gehäusetemperatur / Maximum allowable case temperature $T_C = f(I_{FAVM})$ Strombelastung je Zweig / Current load per arm Berechnungsgrundlage P_{TAV} Calculation base P_{TAV} Parameter: Stromflußwinkel Θ / Current conduction angle Θ			
BIP AC / 87-09-25, K.Spec		A20/87	Seite/page 6/9

N		Datenblatt / Data sheet	power electronics in motion eupec
Netz-Dioden-Modul Rectifier Diode Module		ND260N	
  Höchstzulässiger Ausgangsstrom / Maximum rated output current I_b B2- Zweipuls-Brückenschaltung / Two-pulse bridge circuit Gesamtverlustleistung der Schaltung / Total power dissipation at circuit P_{tot} Parameter: Wärmewiderstand zwischen den Gehäusen und Umgebung / Thermal resistance cases to ambient R_{thCA}   Höchstzulässiger Ausgangsstrom / Maximum rated output current I_b B6- Sechspuls-Brückenschaltung / Six-pulse bridge circuit Gesamtverlustleistung der Schaltung / Total power dissipation at circuit P_{tot} Parameter: Wärmewiderstand zwischen den Gehäusen und Umgebung / Thermal resistance cases to ambient R_{thCA}			
BIP AC / 87-09-25, K.Spec		A20/87	Seite/page 7/9

N		Datenblatt / Data sheet	power electronics in motion eupec
Netz-Dioden-Modul Rectifier Diode Module	ND260N		
 Sperrverzögerungsladung / Recovered charge $Q_r = f(-di/dt)$ $T_{vj} = T_{vjmax}$, $V_R \leq 0,5 V_{RRM}$, $V_{RM} = 0,8 V_{RRM}$ Parameter: Durchlaßstrom / On-state current i_{FM}			
 Grenzstrom je Zweig / Maximum overload on-state current per arm $I_{F(OV)M} = f(t)$, $v_{RM} = 0,8 V_{RRM}$ a: Leerlauf / No-load conditions b: Vorlaststrom je Zweig / Pre-load current per arm $I_{FAV(vor)} = I_{FAVM}$ $T_a = 35^{\circ}C$, verstärkte Luftkühlung / Forced air cooling Kühlkörper / Heatsink type: KM17 (Papst 4650) $T_a = 45^{\circ}C$, natürliche Luftkühlung / Natural air cooling Kühlkörper / Heatsink type: KM17 (60W)			
BIP AC / 87-09-25, K.Spec		A20/87	Seite/page 8/9

N		Datenblatt / Data sheet	power electronics in motion eupec
Netz-Dioden-Modul Rectifier Diode Module	ND260N		
 Überstrom je Zweig / Overload on-state current $I_{F(ov)}$ B6- Sechspuls-Brückenschaltung, 120° Rechteck / Six-pulse bridge circuit, 120° rectangular Kühlkörper / Heatsink type KM17 (60W) Natürliche Kühlung bei / Natural cooling at $T_A = 45^{\circ}\text{C}$ Parameter: Vorlaststrom je Zweig / Pre-load current per arm $I_{FAV(vor)}$  Überstrom je Zweig / Overload on-state current $I_{F(ov)}$ B6- Sechspuls-Brückenschaltung, 120° Rechteck / Six-pulse bridge circuit 120° rectangular Kühlkörper / Heatsink type KM17 (Papst 4650) Verstärkte Kühlung bei / Forced cooling at $T_A = 35^{\circ}\text{C}$ Parameter: Vorlaststrom je Zweig / Pre-load current per arm $I_{FAV(vor)}$			
BIP AC / 87-09-25, K.Spec	A20/87	Seite/page	9/9

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