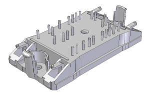
flow PFC 0 — 600 V/ 2 x 20 A / 35 kHz

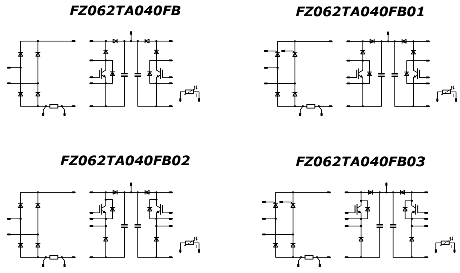
Features
- Vincotech clip-in housing
- Compact and low inductance design
- Suitable for Interleaved topology
- Suitable for curent sensing in collector or in emitter
- Ultrafast boost IGBT and FWD

flow 0 housing



Target Applications
- PFC for welding
- PFC for SMPS
- PFC for motor drives
- PFC for UPS
- PFC for battery charger

Schematic



Types
- FZ062TA040FB; without SCR, current sense in collector
- FZ062TA040FB01; with SCR, current sense in collector
- FZ062TA040FB02; without SCR, current sense in emitter
- FZ062TA040FB03; with SCR, current sense in emitter

Maximum Ratings

T_j=25°C, unless otherwise specified

Parameter	Symbol	Condition		Value	Unit
Input Rectifier Diode					
Repetitive peak reverse voltage	V_{RRM}			1600	V
DC forward current	I_F	$T_j=T_jmax$	T_h=80°C T_c=80°C	35	A
Surge forward current	I_{FSM}	t_p=10ms	T_j=25°C	250	A
I2t-value	I^2t			310	A^2s
Power dissipation	P_{tot}	$T_j=T_jmax$	T_h=80°C T_c=80°C	40	W
Maximum Junction Temperature	T_{jmax}			150	°C
Input Rectifier Thyristor					
Repetitive peak reverse voltage	V_{RRM}			800	V
DC forward current	I_F	$T_j=T_jmax$	T_h=80°C T_c=80°C	34	A
Surge forward current	I_{FSM}	t_p=10ms	T_j=25°C	250	A
I2t-value	I^2t			310	A^2s
Power dissipation	P_{tot}	$T_j=T_jmax$	T_h=80°C T_c=80°C	44	W
Maximum Junction Temperature	T_{jmax}			150	°C

Maximum Ratings

T_j=25°C, unless otherwise specified

Parameter	Symbol	Condition		Value	Unit
PFC IGBT					
Collector-emitter break down voltage	V_{CE}			600	V
DC collector current	I_C	T_j=$T_j$max	T_h=80°C T_c=80°C	27	A
Repetitive peak collector current	I_{CRM}	t_p limited by $T_j$max		150	A
Power dissipation	P_{tot}	T_j=$T_j$max	T_h=80°C T_c=80°C	71	W
Gate-emitter peak voltage	V_{GE}			+/- 20	V
Short circuit ratings	t_{SC} V_{CC}	T_j≤150°C V_{GE}=15V		10 600	μs V
Maximum Junction Temperature	T_{jmax}			150	°C
C.T. Inverse diode					
Peak Repetitive Reverse Voltage	V_{RRM}	T_j=25°C		600	V
DC forward current	I_F	T_j=$T_j$max	T_h=80°C T_c=80°C	8	A
Repetitive peak forward current	I_{FRM}	t_p limited by $T_j$max		16	A
Power dissipation	P_{tot}	T_j=$T_j$max	T_h=80°C T_c=80°C	14	W
Maximum Junction Temperature	T_{jmax}			175	°C
PFC Diode					
Peak Repetitive Reverse Voltage	V_{RRM}	T_j=25°C		600	V
DC forward current	I_F	T_j=$T_j$max	T_h=80°C T_c=80°C	25	A
Repetitive peak forward current	I_{FRM}	t_p limited by $T_j$max		50	A
Power dissipation	P_{tot}	T_j=$T_j$max	T_h=80°C T_c=80°C	37	W
Maximum Junction Temperature	T_{jmax}			600	°C
PFC Shunt					
DC forward current	I_F		T_c=25°C	44,7	A
Power dissipation	P_{tot}		T_c=25°C	10	W
DC link Capacitor					
Max.DC voltage	V_{MAX}		T_c=25°C	500	V
Thermal Properties					
Storage temperature	T_{stg}			-40…+125	°C
Operation temperature under switching condition	T_{op}			-40…+(Tjmax - 25)	°C
Insulation Properties					
Insulation voltage	V_{is}	t=2s DC voltage		4000	V
Creepage distance				min 12,7	mm
Clearance				9,42	mm

Characteristic Values

Parameter	Symbol	Conditions					Value			Unit
			V_{GE} [V] or V_{GS} [V]	V_r [V] or V_{CE} [V] or V_{DS} [V]	I_C [A] or I_F [A] or I_D [A]	T_j	Min	Typ	Max	
Input Rectifier Diode										
Forward voltage	V_F				30	Tj=25°C Tj=125°C		1,16 1,11	1,4	V
Threshold voltage (for power loss calc. only)	V_{to}				30	Tj=25°C Tj=125°C		0,9 0,77		V
Slope resistance (for power loss calc. only)	r_t				30	Tj=25°C Tj=125°C		9 12		mΩ
Reverse current	I_r			1500		Tj=25°C Tj=150°C			0,02 2	mA
Thermal resistance chip to heatsink	$R_{th(j-s)}$	Thermal grease thickness≤50um λ =1 W/mK						1,72		K/W
Input Rectifier Thyristor										
Forward voltage	V_F				30	Tj=25°C Tj=125°C		1,25 1,22	1,6	V
Threshold voltage (for power loss calc. only)	V_{to}				30	Tj=25°C Tj=125°C		0,93 0,82		V
Slope resistance (for power loss calc. only)	r_t				30	Tj=25°C Tj=125°C		0,011 0,014		mΩ
Reverse current	I_r			800		Tj=25°C Tj=125°C			0,05 2	mA
Gate controlled delay time	t_{GD}	Ig=0,5A dig/dt=0,5A/us		VD=1/2Vd		Tj=25°C			2	µs
Gate controlled rise time	t_{GR}	Ig=0,2A dig/dt=0,2A/us				Tj=25°C		<1		µs
Critical rate of rise of off-state voltage	$(dv/dt)_{cr}$			VD=2/3Vd		Tj=125°C			500	V/µs
Critical rate of rise of on-state current	$(di/dt)_{cr}$	Ig=0,2A f=50Hz		VD=2/3Vd	40	Tj=125°C			150	A/µs
Circuit commutated turn-off time	t_q	VD=2/3Vdrm tp=200us		100	26	Tj=125°C		150		µs
Holding current	I_H	VD=6V				Tj=25°C			50	mA
Latching current	I_L	tp=10us Ig=0,2A				Tj=25°C			90	mA
Gate trigger voltage	V_{GT}	VD=6V				Tj=25°C Tj=-40°C			1,3 1,6	V
Gate trigger current	I_{GT}	VD=6V				Tj=25°C Tj=-40°C	11		28 50	mA
Gate non-trigger voltage	V_{GD}			VD=1/2Vd		Tj=125°C			0,2	V
Gate non-trigger current	I_{GD}			VD=1/2Vd		Tj=125°C			1	mA
Thermal resistance chip to heatsink	$R_{th(j-s)}$	Thermal grease thickness≤50um λ = 1 W/mK						1,57		K/W
PFC IGBT										
Gate emitter threshold voltage	$V_{GE(th)}$		Vce		0,002	Tj=25°C Tj=125°C	3	4	5	V
Collector-emitter saturation voltage	V_{CEsat}				50	Tj=25°C Tj=125°C		2,74 3,25	3,3	V
Collector-emitter cut-off	I_{CES}		0	600		Tj=25°C Tj=125°C		3,25	40	uA
Gate-emitter leakage current	I_{GES}		20	0		Tj=25°C Tj=125°C			0,2	uA
Integrated Gate resistor	R_{gint}							n.a.		Ω
Turn-on delay time	$t_{d(on)}$	Rgoff=8Ω Rgon=8Ω	15	400	30	Tj=25°C Tj=125°C		22 22,6		ns
Rise time	t_r					Tj=25°C Tj=125°C		14 14,6		
Turn-off delay time	$t_{d(off)}$					Tj=25°C Tj=125°C		327,6 354,2		
Fall time	t_f					Tj=25°C Tj=125°C		9,4 11,1		
Turn-on energy loss	E_{on}					Tj=25°C Tj=125°C		0,5052 0,7837		mWs
Turn-off energy loss	E_{off}					Tj=25°C Tj=125°C		0,7981 0,968		
Input capacitance	C_{ies}	f=1MHz	0	25		Tj=25°C		2572		pF
Output capacitance	C_{oss}							245		
Reverse transfer capacitance	C_{rss}							158		
Gate charge	Q_G		15	480	50	Tj=25°C		158		nC
Thermal resistance chip to heatsink	$R_{th(j-s)}$	Thermal grease thickness≤50um λ = 1 W/mK						0,99		K/W

Characteristic Values

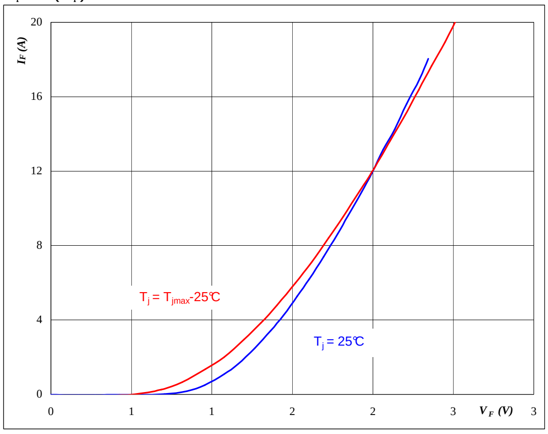
Parameter	Symbol	Conditions	V_{GE} [V] or V_{GS} [V]	V_r [V] or V_{CE} [V] or V_{DS} [V]	I_C [A] or I_F [A] or I_D [A]	T_j	Min	Typ	Max	Unit
C.T. Inverse diode										
Diode forward voltage	V_F					Tj=25°C Tj=125°C		1,66 1,61		V
Thermal resistance chip to heatsink	$R_{th(j-s)}$	Thermal grease thickness≤50um λ = 1 W/mK						5,12		K/W
PFC Diode										
Forward voltage	V_F				30	Tj=25°C Tj=125°C		2,52 1,81	2,8	V
Reverse leakage current	I_{rm}			600		Tj=25°C Tj=125°C			100	μA
Peak recovery current	I_{RRM}	Rgoff=8Ω	15	400	30	Tj=25°C Tj=125°C		37,632 59,961		A
Reverse recovery time	t_{rr}					Tj=25°C Tj=125°C		12,6 23		ns
Reverse recovery charge	Q_{rr}					Tj=25°C Tj=125°C		0,2238 0,7628		μC
Reverse recovered energy	E_{rec}					Tj=25°C Tj=125°C		0,0115 0,1151		mWs
Peak rate of fall of recovery current	$(di_{rf}/dt)_{max}$					Tj=25°C Tj=125°C		16814 11387		A/μs
Thermal resistance chip to heatsink	$R_{th(j-s)}$	Thermal grease thickness≤50um λ = 1 W/mK						1,88		K/W
PFC Shunt										
R1 value	R						4,7	5	5,3	mΩ
Temperature coeficient	tc	20°C to 60°C						< 50		ppm/K
Internal heat resistance	Rthi							< 6.5		K/W
Inductance	L							< 3		nH
DC link Capacitor										
C value	C						480	540	600	nF
Thermistor										
Rated resistance	R					Tj=25°C		22		kΩ
Deviation of R100	$\Delta_{R/R}$	R25=22 KΩ				Tj=100°C	-5		5	%
Power dissipation	P					Tj=25°C			210	mW
Power dissipation constant						Tj=25°C		3,5		mW/K
B-value	$B_{(25/50)}$	Tol. ±3%				Tj=25°C		3940		K
B-value	$B_{(25/100)}$	Tol. ±3%				Tj=25°C		4000		K

PFC Switch & C.T. Inverse Diode

Figure 1	Inverse diode

Typical diode forward current as a function of forward voltage

$I_F = f(V_F)$

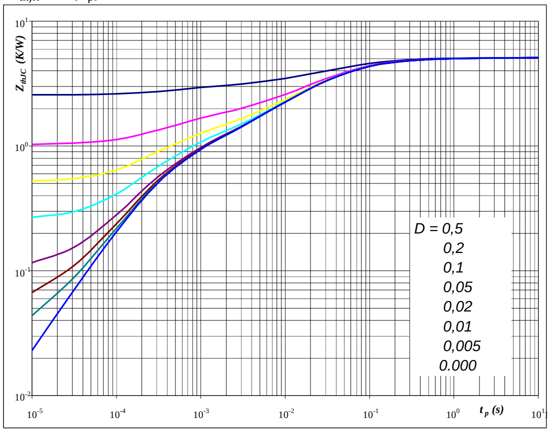


t_p = 250 μs

Figure 2	Inverse diode

Diode transient thermal impedance as a function of pulse width

$Z_{thJH} = f(t_p)$



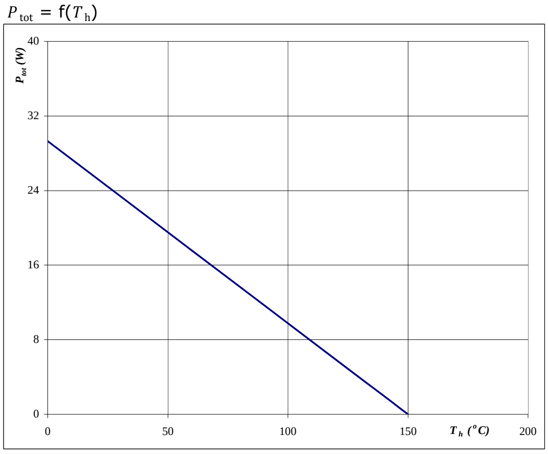
D = t_p / T

R_{thJH} = 5,12 K/W

Figure 3	Inverse diode

Power dissipation as a function of heatsink temperature

$P_{tot} = f(T_h)$

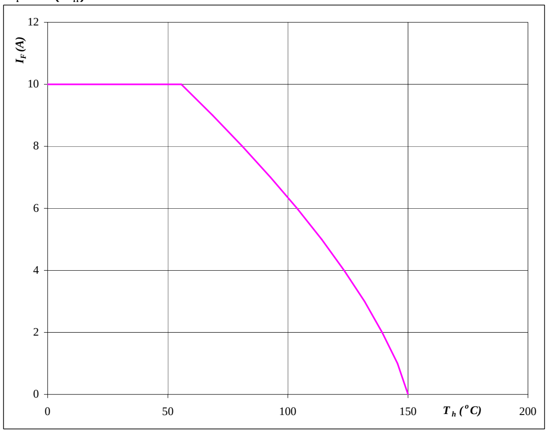


T_j = 150 ºC

Figure 4	Inverse diode

Forward current as a function of heatsink temperature

$I_F = f(T_h)$



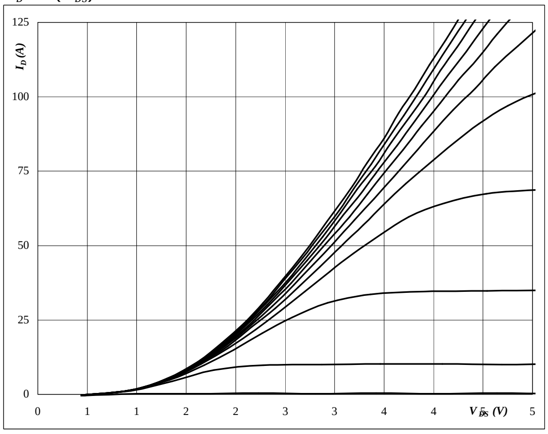
T_j = 150 ºC

PFC

Figure 1 PFC SWITCH

Typical output characteristics

$I_D = f(V_{DS})$

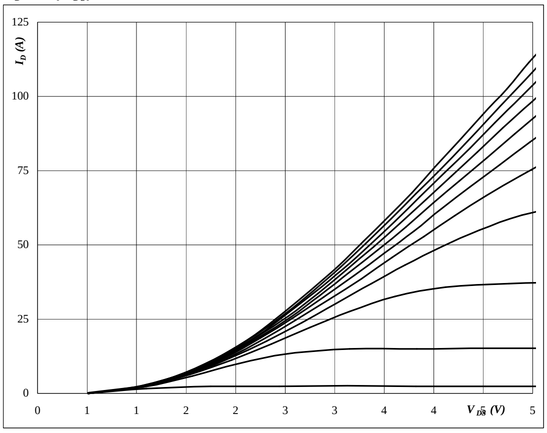


t_p = 250 µs
T_j = 25 °C
V_{GS} from 5 V to 15 V in steps of 1 V

Figure 2 PFC SWITCH

Typical output characteristics

$I_D = f(V_{DS})$

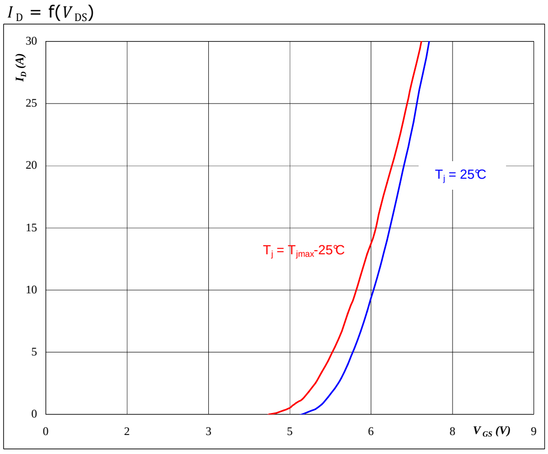


t_p = 250 µs
T_j = 125 °C
V_{GS} from 5 V to 15 V in steps of 1 V

Figure 3 PFC SWITCH

Typical transfer characteristics

$I_D = f(V_{DS})$

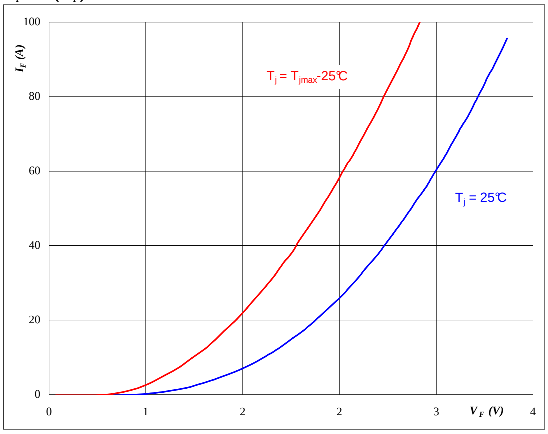


t_p = 250 µs
V_{DS} = 10 V

Figure 4 PFC FWD

Typical diode forward current as a function of forward voltage

$I_F = f(V_F)$



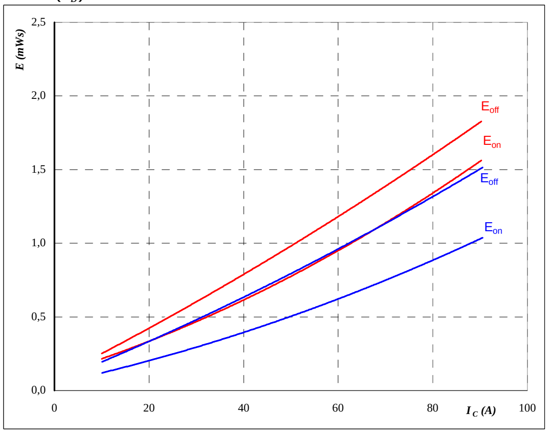
t_p = 250 µs

PFC

Figure 5 PFC SWITCH

Typical switching energy losses as a function of collector current

$E = f(I_D)$



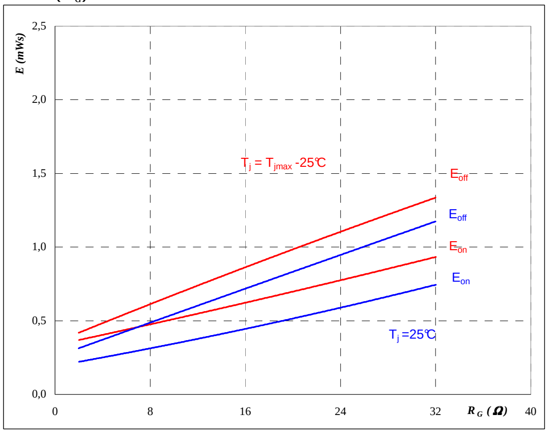
inductive load

T_j =	25/125	°C
V_{DS} =	400	V
V_{GS} =	15	V
R_{gon} =	8	Ω
R_{goff} =	8	Ω

Figure 6 PFC SWITCH

Typical switching energy losses as a function of gate resistor

$E = f(R_G)$



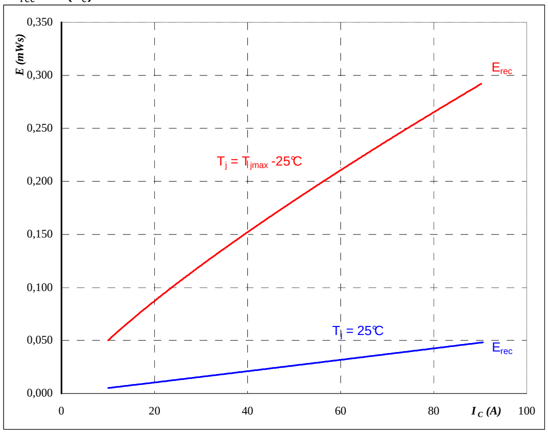
inductive load

T_j =	25/125	°C
V_{DS} =	400	V
V_{GS} =	15	V
I_D =	30	A

Figure 7 PFC SWITCH

Typical reverse recovery energy loss as a function of collector (drain) current

$E_{rec} = f(I_c)$



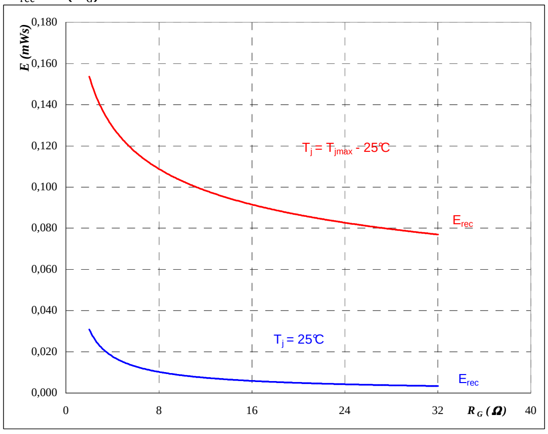
inductive load

T_j =	25/125	°C
V_{DS} =	400	V
V_{GS} =	15	V
R_{gon} =	8	Ω
R_{goff} =	8	Ω

Figure 8 PFC SWITCH

Typical reverse recovery energy loss as a function of gate resistor

$E_{rec} = f(R_G)$



inductive load

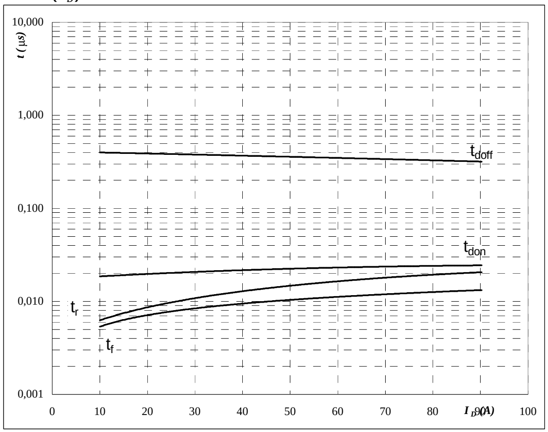
T_j =	25/125	°C
V_{DS} =	400	V
V_{GS} =	15	V
I_D =	30	A

PFC

Figure 9 PFC SWITCH

Typical switching times as a function of collector current

$t = f(I_D)$



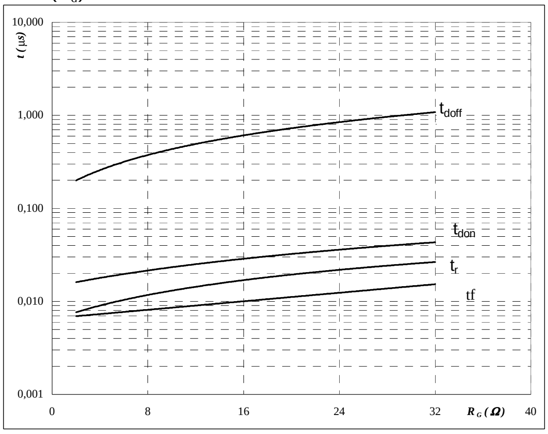
inductive load

T_j =	125	°C
V_{DS} =	400	V
V_{GS} =	15	V
R_{gon} =	8	Ω
R_{goff} =	8	Ω

Figure 10 PFC SWITCH

Typical switching times as a function of gate resistor

$t = f(R_G)$



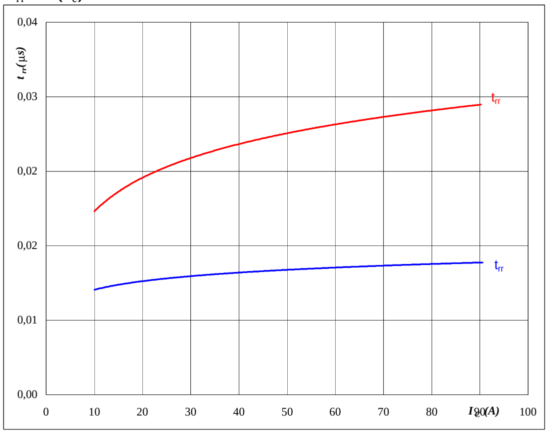
inductive load

T_j =	125	°C
V_{DS} =	400	V
V_{GS} =	15	V
I_C =	30	A

Figure 11 PFC FWD

Typical reverse recovery time as a function of collector current

$t_{rr} = f(I_c)$

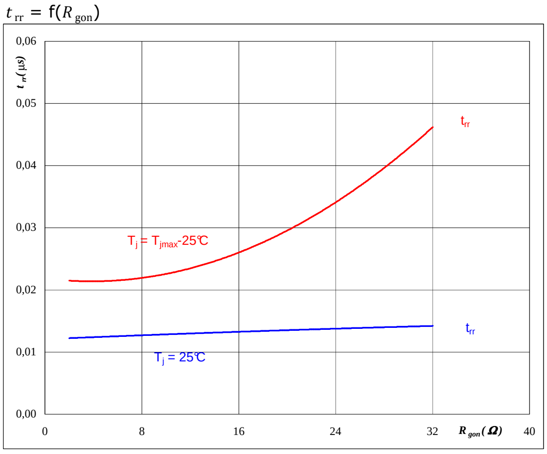


T_j =	25/125	°C
V_{CE} =	400	V
V_{GE} =	15	V
R_{gon} =	8	Ω

Figure 12 PFC FWD

Typical reverse recovery time as a function of IGBT turn on gate resistor

$t_{rr} = f(R_{gon})$



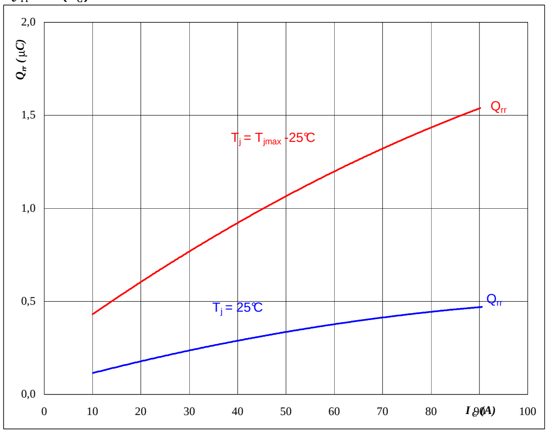
T_j =	25/125	°C
V_R =	400	V
I_F =	30	A
V_{GS} =	15	V

PFC

Figure 13 PFC FWD

Typical reverse recovery charge as a function of collector current

$Q_{rr} = f(I_C)$

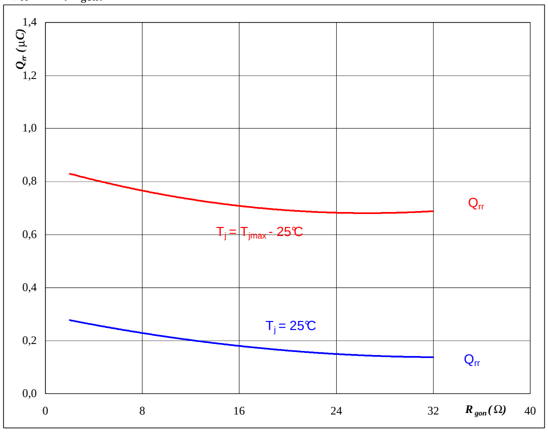


T_j = 25/125 °C
V_{CE} = 400 V
V_{GE} = 15 V
R_{gon} = 8 Ω

Figure 14 PFC FWD

Typical reverse recovery charge as a function of IGBT turn on gate resistor

$Q_{rr} = f(R_{gon})$

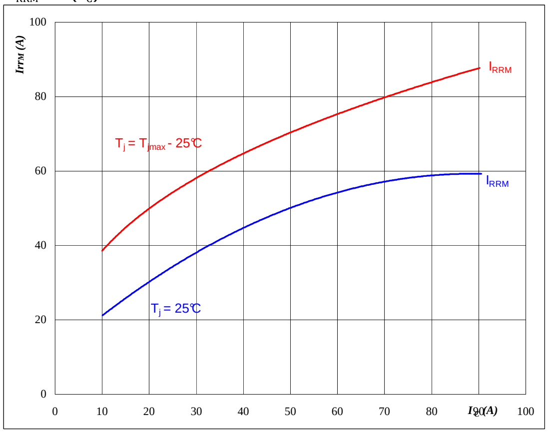


T_j = 25/125 °C
V_R = 400 V
I_F = 30 A
V_{GS} = 15 V

Figure 15 PFC FWD

Typical reverse recovery current as a function of collector current

$I_{RRM} = f(I_C)$

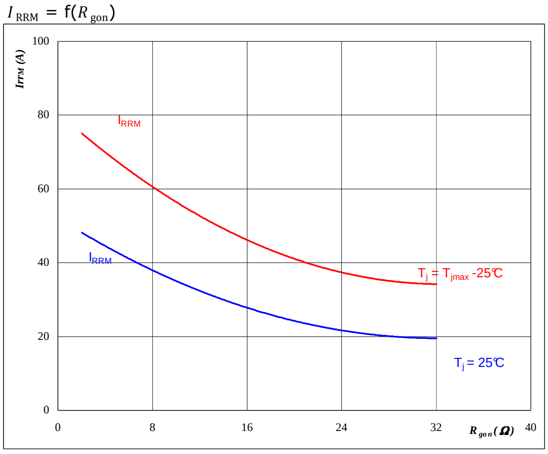


T_j = 25/125 °C
V_{CE} = 400 V
V_{GE} = 15 V
R_{gon} = 8 Ω

Figure 16 PFC FWD

Typical reverse recovery current as a function of IGBT turn on gate resistor

$I_{RRM} = f(R_{gon})$



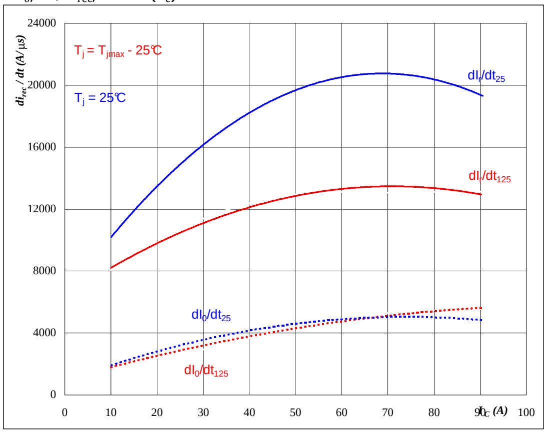
T_j = 25/125 °C
V_R = 400 V
I_F = 30 A
V_{GS} = 15 V

PFC

Figure 17	PFC FWD

Typical rate of fall of forward and reverse recovery current as a function of collector current

$dI_0/dt, dI_{rec}/dt = f(I_c)$

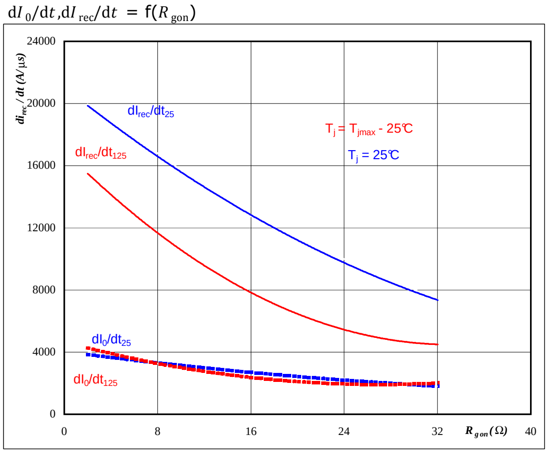


T_j =	25/125	°C
V_{CE} =	400	V
V_{GE} =	15	V
R_{gon} =	8	Ω

Figure 18	PFC FWD

Typical rate of fall of forward and reverse recovery current as a function of IGBT turn on gate resistor

$dI_0/dt, dI_{rec}/dt = f(R_{gon})$

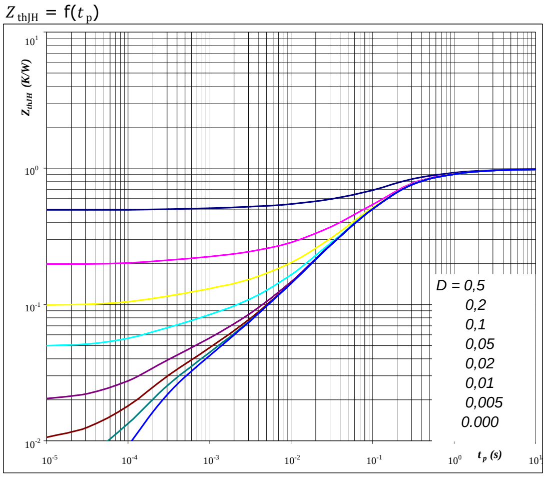


T_j =	25/125	°C
V_R =	400	V
I_F =	30	A
V_{GS} =	15	V

Figure 19	PFC SWITCH

IGBT/MOSFET transient thermal impedance as a function of pulse width

$Z_{thJH} = f(t_p)$



D =	t_p / T	
R_{thJH} =	0,99	K/W

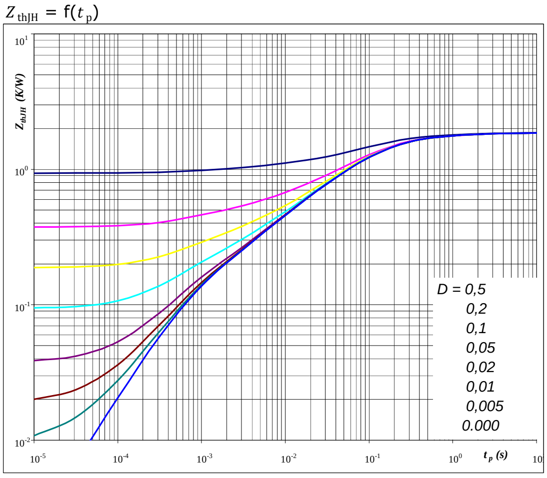
IGBT thermal model values

R (K/W)	Tau (s)
0,049	4,52E+00
0,198	6,47E-01
0,559	1,37E-01
0,129	2,16E-02
0,030	2,42E-03
0,022	2,71E-04

Figure 20	PFC FWD

FWD transient thermal impedance as a function of pulse width

$Z_{thJH} = f(t_p)$



D =	t_p / T	
R_{thJH} =	1,87	K/W

FWD thermal model values

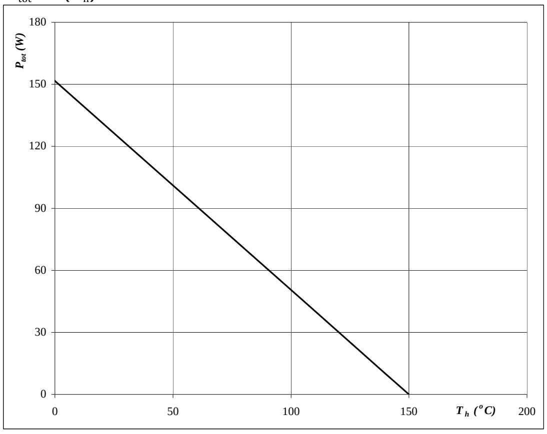
R (K/W)	Tau (s)
0,04	1,03E+01
0,21	9,26E-01
0,76	1,43E-01
0,57	3,47E-02
0,18	4,85E-03
0,11	6,60E-04

PFC

Figure 21 PFC SWITCH

Power dissipation as a function of heatsink temperature

$P_{tot} = f(T_h)$

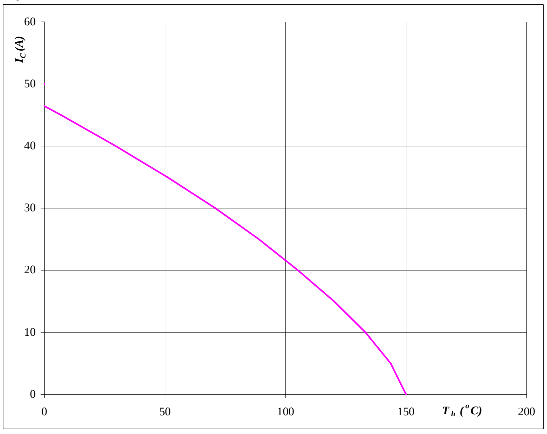


$T_j =$ 150 ºC

Figure 22 PFC SWITCH

Collector/Drain current as a function of heatsink temperature

$I_C = f(T_h)$



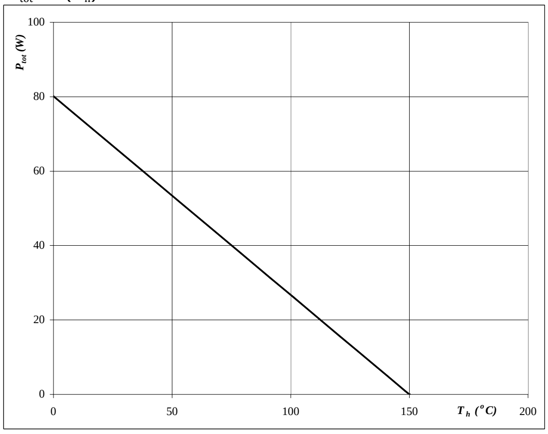
$T_j =$ 150 ºC

$V_{GS} =$ 15 V

Figure 23 PFC FWD

Power dissipation as a function of heatsink temperature

$P_{tot} = f(T_h)$

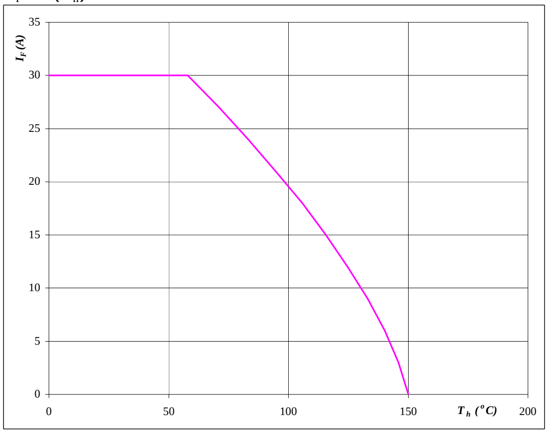


$T_j =$ 150 ºC

Figure 24 PFC FWD

Forward current as a function of heatsink temperature

$I_F = f(T_h)$



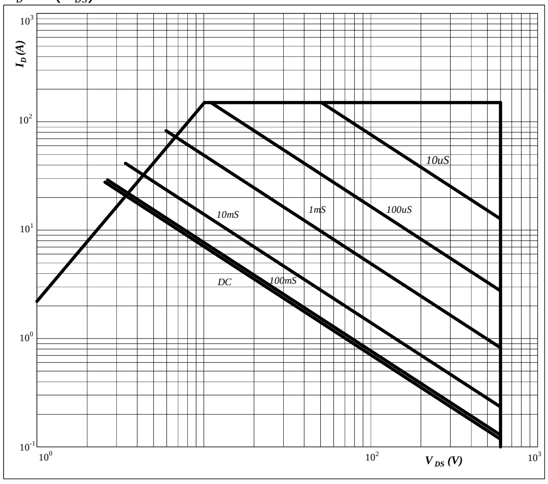
$T_j =$ 150 ºC

PFC

Figure 25 PFC SWITCH

Safe operating area as a function of drain-source voltage

$I_D = f(V_{DS})$

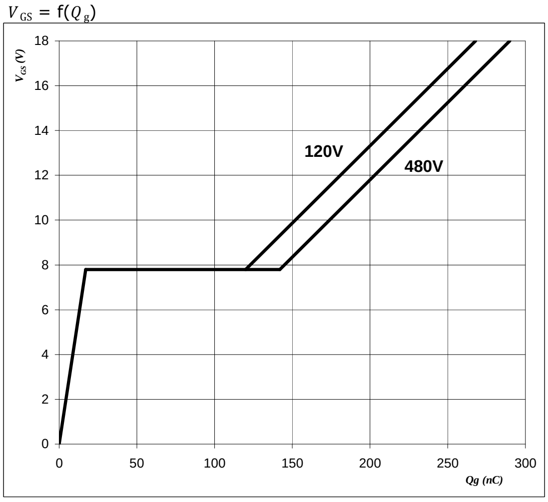


D =	single pulse	
T_h =	80	ºC
V_{GS} =	15	V
T_j =	T_{jmax}	ºC

Figure 26 PFC SWITCH

Gate voltage vs Gate charge

$V_{GS} = f(Q_g)$



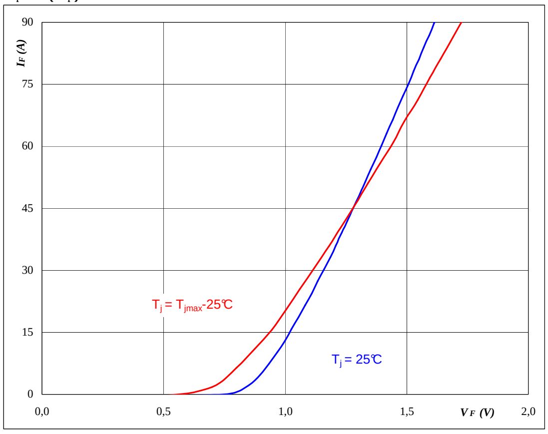
I_D =	50	A

Input Rectifier Bridge

Figure 1 Rectifier diode

Typical diode forward current as a function of forward voltage

$I_F = f(V_F)$

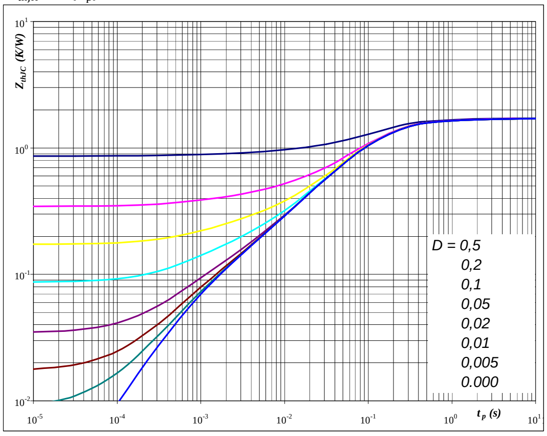


t_p = 250 μs

Figure 2 Rectifier diode

Diode transient thermal impedance as a function of pulse width

$Z_{thJH} = f(t_p)$



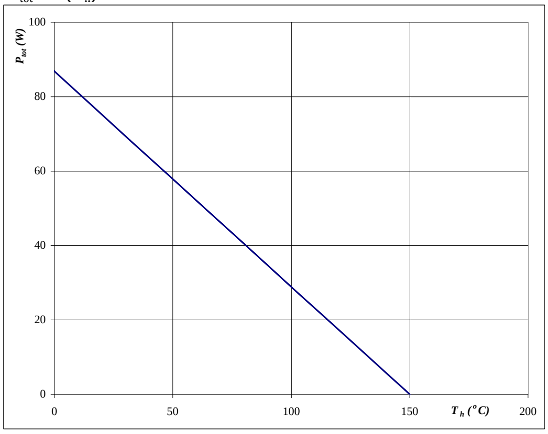
D = t_p / T

R_{thJH} = 1,728 K/W

Figure 3 Rectifier diode

Power dissipation as a function of heatsink temperature

$P_{tot} = f(T_h)$

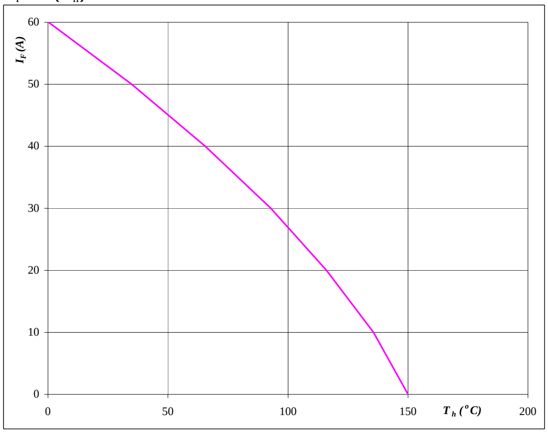


T_j = 150 ºC

Figure 4 Rectifier diode

Forward current as a function of heatsink temperature

$I_F = f(T_h)$



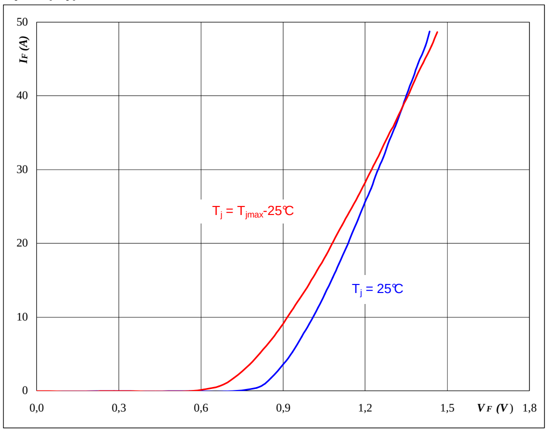
T_j = 150 ºC

Thyristor

Figure 1 Thyristor

Typical thyristor forward current as a function of forward voltage

$I_F = f(V_F)$

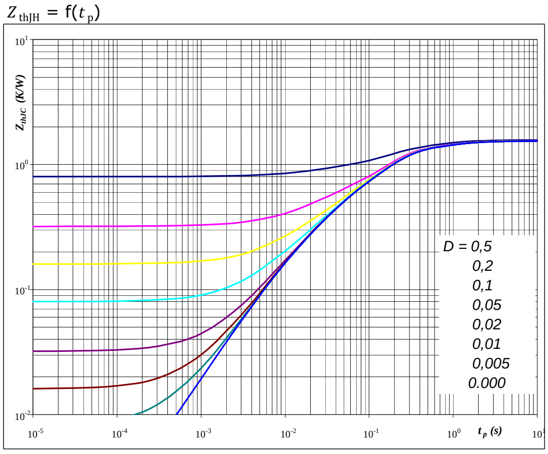


t_p = 250 μs

Figure 2 Thyristor

Thyristor transient thermal impedance as a function of pulse width

$Z_{thJH} = f(t_p)$



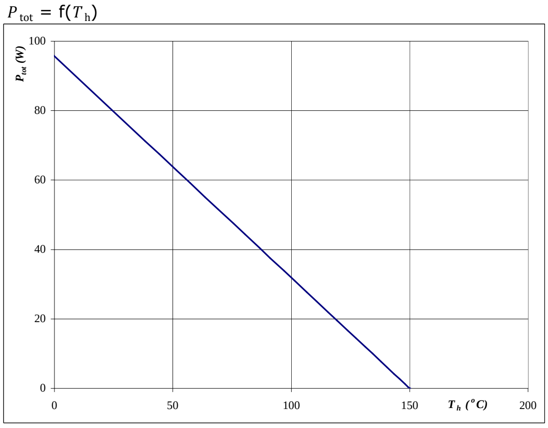
D = t_p / T

R_{thJH} = 1,57 K/W

Figure 3 Thyristor

Power dissipation as a function of heatsink temperature

$P_{tot} = f(T_h)$

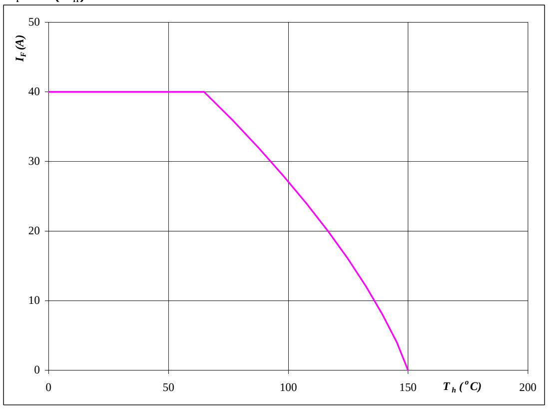


T_j = 150 ºC

Figure 4 Thyristor

Forward current as a function of heatsink temperature

$I_F = f(T_h)$

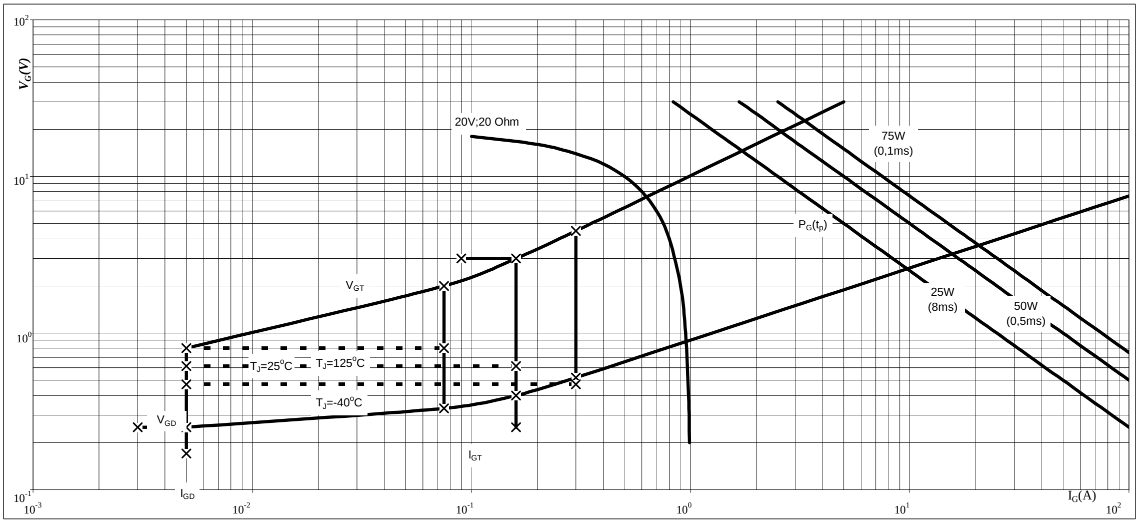


T_j = 150 ºC

Thyristor

Figure 5 Thyristor

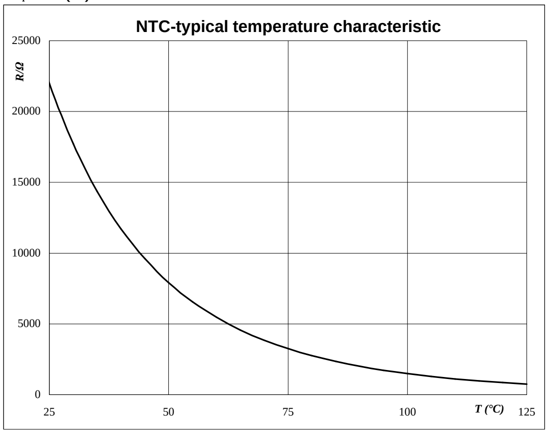
Gate trigger characteristics



Thermistor

Figure 1 Thermistor

Typical NTC characteristic
as a function of temperature
R_T = f(T)



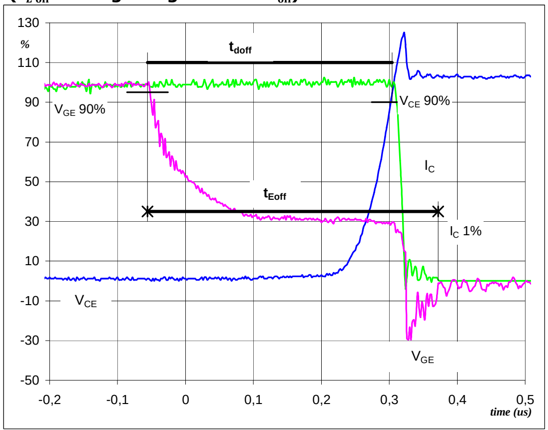
Switching Definitions PFC

General conditions

T_j	=	125 °C
R_{gon}	=	8 Ω
R_{goff}	=	8 Ω

Figure 1 PFC SWITCH

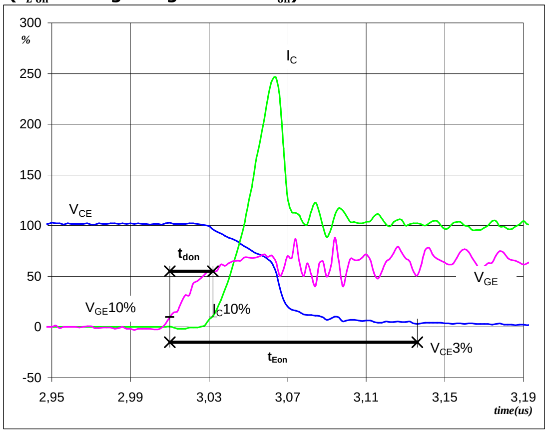
Turn-off Switching Waveforms & definition of t_{doff}, t_{Eoff}
($t_{E\,off}$ = integrating time for E_{off})



V_{GE} (0%) =	0	V
V_{GE} (100%) =	15	V
V_C (100%) =	400	V
I_C (100%) =	50	A
t_{doff} =	0,35	μs
$t_{E\,off}$ =	0,43	μs

Figure 2 PFC SWITCH

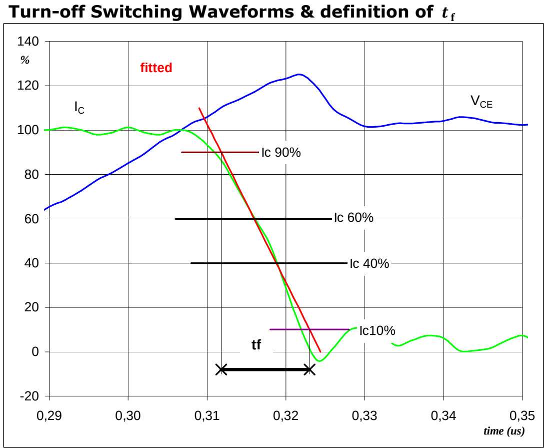
Turn-on Switching Waveforms & definition of t_{don}, t_{Eon}
($t_{E\,on}$ = integrating time for E_{on})



V_{GE} (0%) =	0	V
V_{GE} (100%) =	15	V
V_C (100%) =	400	V
I_C (100%) =	50	A
t_{don} =	0,02	μs
$t_{E\,on}$ =	0,13	μs

Figure 3 PFC SWITCH

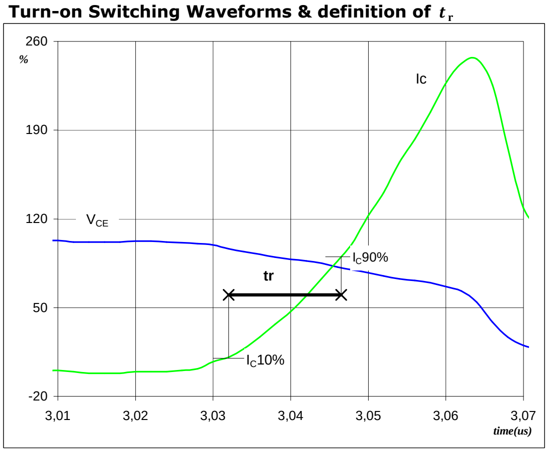
Turn-off Switching Waveforms & definition of t_f



V_C (100%) =	400	V
I_C (100%) =	50	A
t_f =	0,011	μs

Figure 4 PFC SWITCH

Turn-on Switching Waveforms & definition of t_r

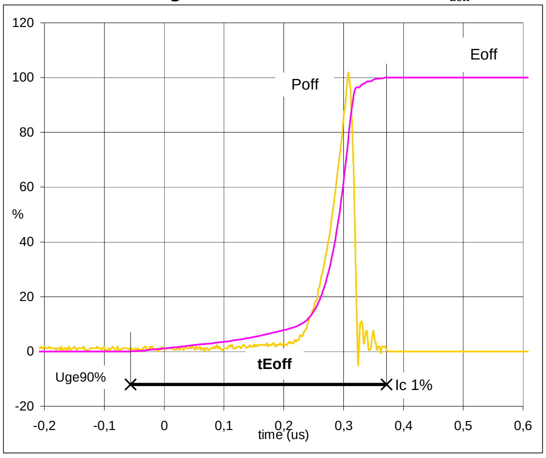


V_C (100%) =	400	V
I_C (100%) =	50	A
t_r =	0,015	μs

Switching Definitions PFC

Figure 5 PFC SWITCH

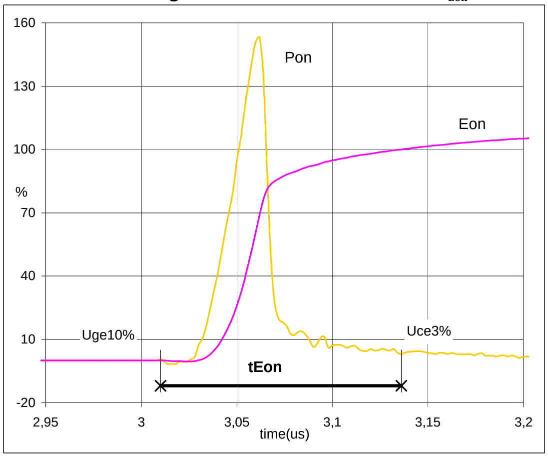
Turn-off Switching Waveforms & definition of t_{Eoff}



P_{off} (100%) =	20,08	kW
E_{off} (100%) =	0,97	mJ
$t_{E\,off}$ =	0,43	μs

Figure 6 PFC SWITCH

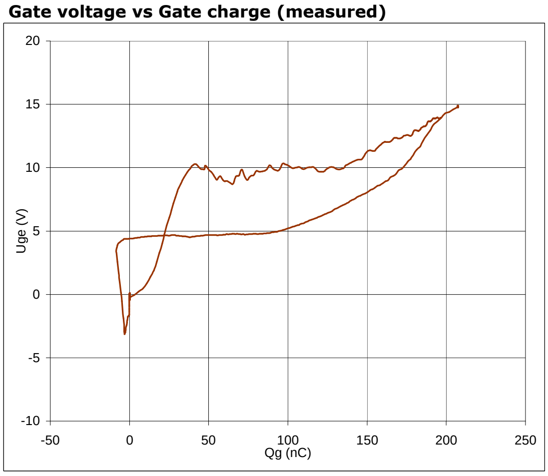
Turn-on Switching Waveforms & definition of t_{Eon}



P_{on} (100%) =	20,08	kW
E_{on} (100%) =	0,78	mJ
$t_{E\,on}$ =	0,126	μs

Figure 7 PFC SWITCH

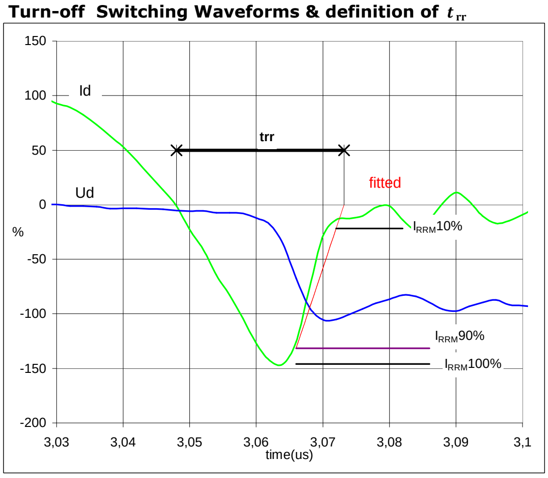
Gate voltage vs Gate charge (measured)



$V_{GE\,off}$ =	0	V
$V_{GE\,on}$ =	15	V
V_C (100%) =	400	V
I_C (100%) =	50	A
Q_g =	207,14	nC

Figure 8 PFC FWD

Turn-off Switching Waveforms & definition of t_{rr}

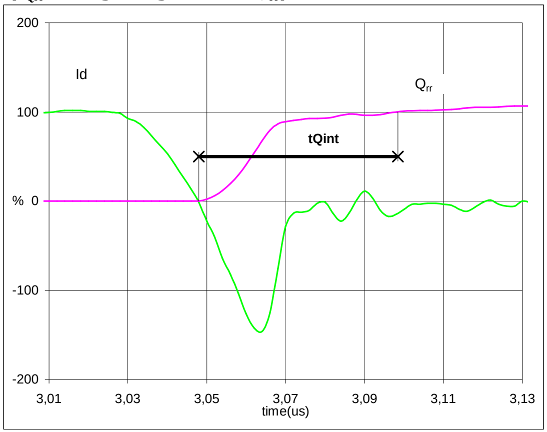


V_d (100%) =	400	V
I_d (100%) =	50	A
I_{RRM} (100%) =	-73	A
t_{rr} =	0,03	μs

Switching Definitions PFC

Figure 9 PFC FWD

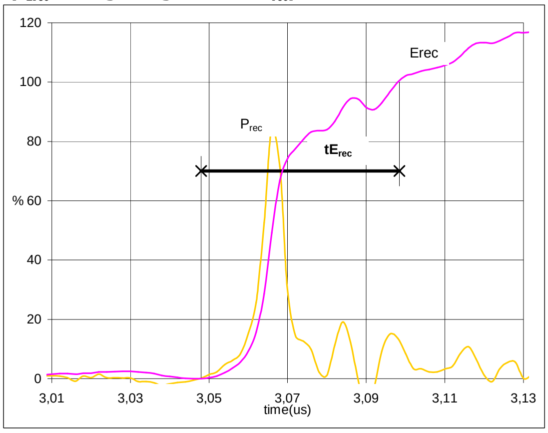
Turn-on Switching Waveforms & definition of t_{Qrr}
(t_{Qrr}= integrating time for Q_{rr})



I_d (100%) =	50	A
Q_{rr} (100%) =	1,08	µC
t_{Qint} =	0,05	µs

Figure 10 PFC FWD

Turn-on Switching Waveforms & definition of t_{Erec}
(t_{Erec}= integrating time for E_{rec})



P_{rec} (100%) =	20,08	kW
E_{rec} (100%) =	0,19	mJ
$t_{E\,rec}$ =	0,05	µs

Ordering Code and Marking - Outline - Pinout

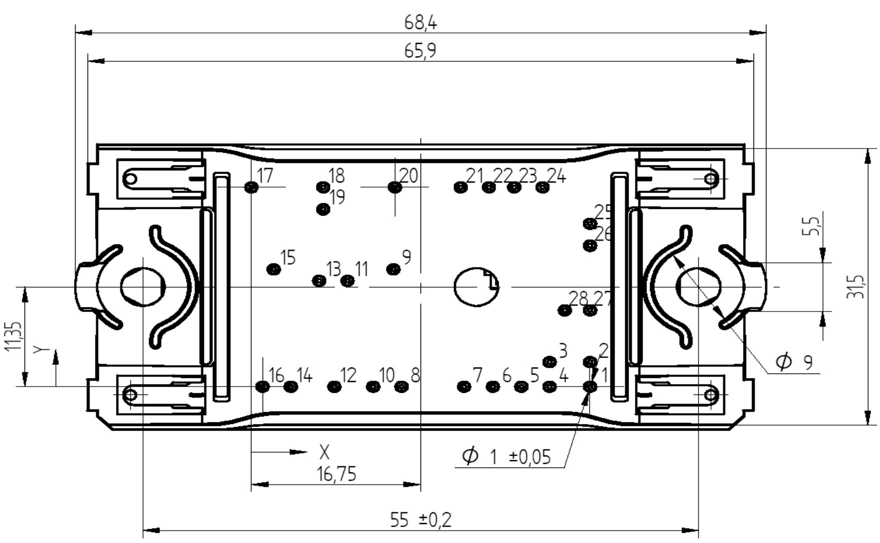
Ordering Code & Marking

Version	Ordering Code	in DataMatrix as	in packaging barcode as
without SCR, current sense in collector	10-FZ062TA040FB-P984D18	P984D18	P984D18
with SCR, current sense in collector	10-FZ062TA040FB01-P984D28	P984D28	P984D28
without SCR, current sense in emitter	10-FZ062TA040FB02-P984D38	P984D38	P984D38
with SCR, current sense in emitter	10-FZ062TA040FB03-P984D48	P984D48	P984D48

Outline

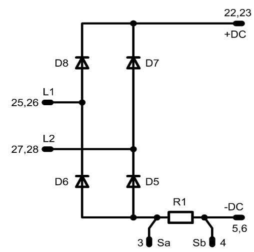
Pin Table

Pin	X	Y
1	33,5	0
2	33,5	2,8
3	29,5	2,8
4	29,5	0
5	26,7	0
6	23,9	0
7	21,05	0
8	14,85	0
9	14,05	13,35
10	12,05	0
11	9,5	12,05
12	8,2	0
13	6,7	12,05
14	3,9	0
15	2,2	13,35
16	1,1	0
17	0	22,7
18	7,1	22,7
19	7,1	20,2
20	14,2	22,7
21	20,7	22,7
22	23,5	22,7
23	26	22,7
24	28,8	22,7
25	33,5	18,55
26	33,5	16,05
27	33,5	8,7
28	31	8,7



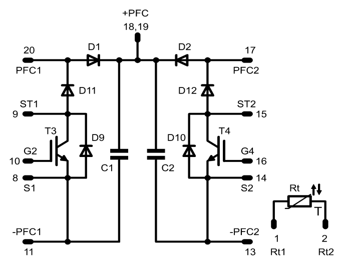
Pinout

Rectifier(FZ062TA040FB & FB02)



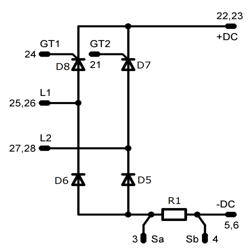
Pin nr. 21 & 24 without electrical connection

Boost stage(FZ062TA040FB & FB01)

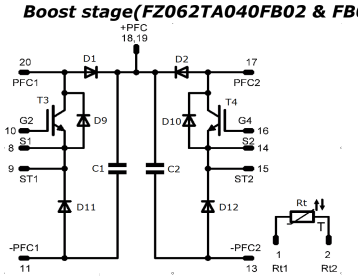


Pin nr. 7 & 12 without electrical connection

Rectifier(FZ062TA040FB01 & FB03)



Boost stage(FZ062TA040FB02 & FB03)



Pin nr. 7 & 12 without electrical connection

Identification

10-FZ062TA040FB-P984D18:

Identification					
ID	**Component**	**Voltage**	**Current**	**Function**	**Comment**
T3,T4	IGBT	600V	50A	PFC Swich	
D1,D2	FWD	600V	30A	PFC FWD	
D9-D12	FWD	600V	6A	PFC Swich Inverse diode	
D5-D8	Rectifier	1600V	50A	Rectifier	
Rt	NTC	-	-	Thermistor	
C1,C2	Capacitor	500V	270nF	DC Link Capacitor	
R1	Shunt	5W	5mΩ	PFC Shunt	

10-FZ062TA040FB01-P984D28:

Identification					
ID	**Component**	**Voltage**	**Current**	**Function**	**Comment**
T3,T4	IGBT	600V	50A	PFC Switch	
D1,D2	FWD	600V	30A	PFC FWD	
D9-D12	FWD	600V	6A	PFC Swich Inverse diode	
D5-D6	Rectifier	1600V	50A	Rectifier	
TH1,TH2	Thyristor	1200V	26A	Rectifier	
Rt	NTC	-	-	Thermistor	
C1,C2	Capacitor	500V	270nF	DC Link Capacitor	
R1	Shunt	5W	5mΩ	PFC Shunt	

10-FZ062TA040FB02-P984D38:

Identification					
ID	**Component**	**Voltage**	**Current**	**Function**	**Comment**
T3,T4	IGBT	600V	50A	PFC Swich	
D1,D2	FWD	600V	30A	PFC FWD	
D9-D12	FWD	600V	6A	PFC Swich Inverse diode	
D5-D8	Rectifier	1600V	50A	Rectifier	
Rt	NTC	-	-	Thermistor	
C1,C2	Capacitor	500V	270nF	DC Link Capacitor	
R1	Shunt	5W	5mΩ	PFC Shunt	

10-FZ062TA040FB03-P984D48:

Identification					
ID	**Component**	**Voltage**	**Current**	**Function**	**Comment**
T3,T4	IGBT	600V	50A	PFC Swich	
D1,D2	FWD	600V	30A	PFC FWD	
D9-D12	FWD	600V	6A	PFC Swich Inverse diode	
D5-D6	Rectifier	1600V	50A	Rectifier	
TH1,TH2	Thyristor	1200V	26A	Rectifier	
Rt	NTC	-	-	Thermistor	
C1,C2	Capacitor	500V	270nF	DC Link Capacitor	
R1	Shunt	5W	5mΩ	PFC Shunt	

DISCLAIMER

The information, specifications, procedures, methods and recommendations herein (together "information") are presented by Vincotech to reader in good faith, are believed to be accurate and reliable, but may well be incomplete and/or not applicable to all conditions or situations that may exist or occur. Vincotech reserves the right to make any changes without further notice to any products to improve reliability, function or design. No representation, guarantee or warranty is made to reader as to the accuracy, reliability or completeness of said information or that the application or use of any of the same will avoid hazards, accidents, losses, damages or injury of any kind to persons or property or that the same will not infringe third parties rights or give desired results. It is reader's sole responsibility to test and determine the suitability of the information and the product for reader's intended use.

LIFE SUPPORT POLICY

Vincotech products are not authorised for use as critical components in life support devices or systems without the express written approval of Vincotech.

As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, or (c) whose failure to perform when properly used in accordance with instructions for use provided in labelling can be reasonably expected to result in significant injury to the user.

2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.