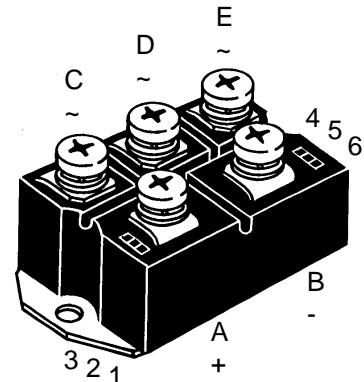
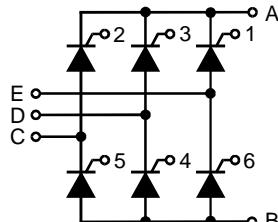


Three Phase Full Controlled Rectifier Bridge, B6C

$I_{dAVM} = 110/167 \text{ A}$
 $V_{RRM} = 1200-1600 \text{ V}$

V_{RSM} V_{DSM}	V_{RRM} V_{DRM}	Type
V	V	
1300	1200	VTO 110-12io7
1500	1400	VTO 110-14io7
1700	1600	VTO 175-16io7



Symbol	Test Conditions	Maximum Ratings		
		VTO 110	VTO 175	
I_{dAV}	$T_c = 85^\circ\text{C}$; module per leg	110	167	A
I_{FRMS}, I_{TRMS}		58	89	A
I_{FSM}, I_{TSM}	$T_{VJ} = 45^\circ\text{C}$; $t = 10 \text{ ms}$ (50 Hz), sine $V_R = 0$ $t = 8.3 \text{ ms}$ (60 Hz), sine	1150	1500	A
	$T_{VJ} = T_{VJM}$ $t = 10 \text{ ms}$ (50 Hz), sine $V_R = 0$ $t = 8.3 \text{ ms}$ (60 Hz), sine	1230	1600	A
I^2t	$T_{VJ} = 45^\circ\text{C}$ $t = 10 \text{ ms}$ (50 Hz), sine $V_R = 0$ $t = 8.3 \text{ ms}$ (60 Hz), sine	1000	1350	A
	$T_{VJ} = T_{VJM}$ $t = 10 \text{ ms}$ (50 Hz), sine $V_R = 0$ $t = 8.3 \text{ ms}$ (60 Hz), sine	1070	1450	A
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ repetitive, $I_T = 50 \text{ A}$ $f = 400 \text{ Hz}$, $t_p = 200 \mu\text{s}$ $V_D = 2/3 V_{DRM}$ $I_G = 0.3 \text{ A}$, non repetitive $di_G/dt = 0.3 \text{ A}/\mu\text{s}$, $I_T = 1/3 \cdot I_{dAV}$	6600	11200	A^2s
		6280	10750	A^2s
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$; $V_{DR} = 2/3 V_{DRM}$ $R_{GK} = \infty$; method 1 (linear voltage rise)	5000	9100	A^2s
		4750	8830	A^2s
V_{RGM}		150	10	V
P_{GM}	$T_{VJ} = T_{VJM}$ $t_p = 30 \mu\text{s}$ $I_T = I_{TAVM}$ $t_p = 500 \mu\text{s}$ $t_p = 10 \text{ ms}$	\leq \leq \leq	10 5 1 0.5	W
P_{GAVM}			-40...+125 125 -40...+125	°C
T_{VJ}			125	°C
T_{VJM}			125	°C
T_{stg}			-40...+125	°C
V_{ISOL}	50/60 Hz, RMS $t = 1 \text{ min}$	2500	2500	V~
	$I_{ISOL} \leq 1 \text{ mA}$ $t = 1 \text{ s}$	3000	3000	V~
M_d	Mounting torque (M6) Terminal connection torque (M6)	5-15 5-15	Nm lb.in.	
Weight	typ.	300	300	g

Data according to IEC 60747 and refer to a single thyristor/diode unless otherwise stated.
IXYS reserves the right to change limits, test conditions and dimensions.

Symbol	Test Conditions	Characteristic Values		
		VTO 110	VTO 175	
I_R, I_D	$V_R = V_{RRM}$; $V_D = V_{DRM}$ $T_{VJ} = T_{VJM}$ $T_{VJ} = 25^\circ C$	\leq \leq	5 0.3	mA mA
V_F, V_T	$I_F, I_T = 200 A$, $T_{VJ} = 25^\circ C$	\leq	1.75	1.57
V_{TO} r_T	For power-loss calculations only ($T_{VJ} = 125^\circ C$)		0.85 6	0.85 3.5
V_{GT}	$V_D = 6 V$; $T_{VJ} = 25^\circ C$ $T_{VJ} = -40^\circ C$	\leq \leq	1.5 1.6	V V
I_{GT}	$V_D = 6 V$; $T_{VJ} = 25^\circ C$ $T_{VJ} = -40^\circ C$	\leq \leq	100 200	mA mA
V_{GD} I_{GD}	$T_{VJ} = T_{VJM}$; $V_D = 2/3 V_{DRM}$ $T_{VJ} = T_{VJM}$; $V_D = 2/3 V_{DRM}$	\leq \leq	0.2 5	V mA
I_L	$I_G = 0.3 A$; $t_G = 30 \mu s$ $di_G/dt = 0.3 A/\mu s$	$T_{VJ} = 25^\circ C$	\leq	450
I_H	$T_{VJ} = 25^\circ C$; $V_D = 6 V$; $R_{GK} = \infty$		\leq	200
t_{gd}	$T_{VJ} = 25^\circ C$; $V_D = 1/2 V_{DRM}$ $I_G = 0.3 A$; $di_G/dt = 0.3 A/\mu s$	\leq	2	μs
R_{thJC}	per thyristor (diode); DC current per module	0.65 0.108	0.46 0.077	K/W K/W
R_{thJH}	per thyristor (diode); DC current per module	0.8 0.133	0.55 0.092	K/W K/W
d_s	Creeping distance on surface		10	mm
d_A	Creepage distance in air		9.4	mm
a	Max. allowable acceleration		50	m/s^2

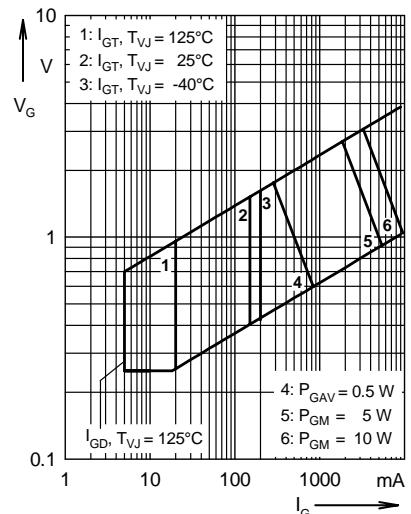


Fig. 1 Gate trigger characteristics

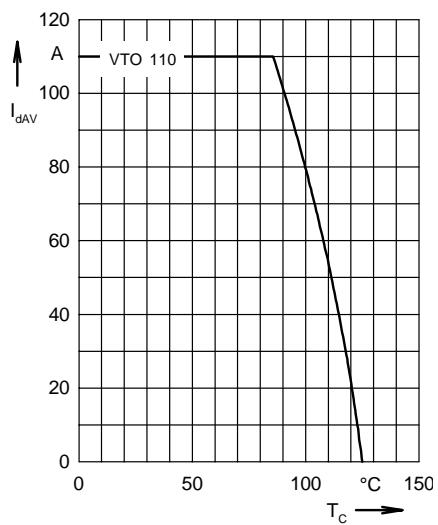


Fig. 2 DC output current at case temperature

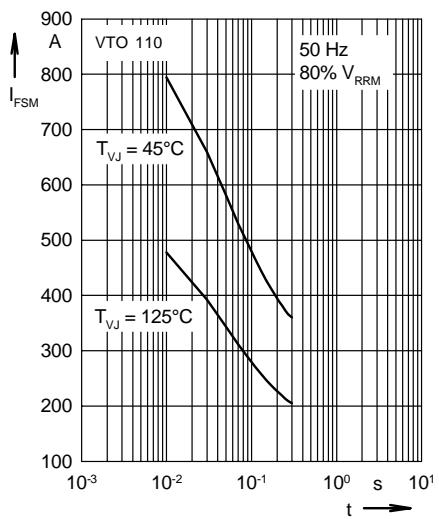
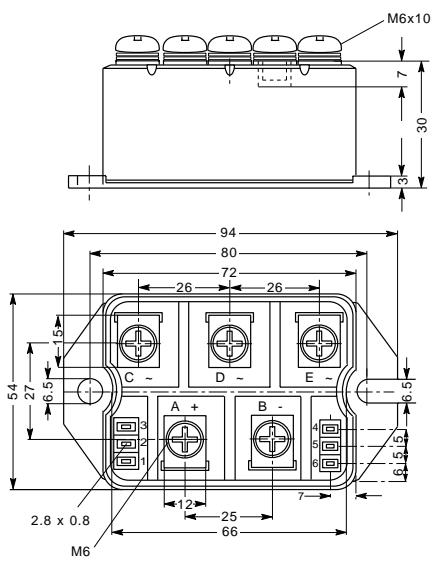


Fig. 3 Surge overload current
 I_{FSM} : Crest value, t: duration

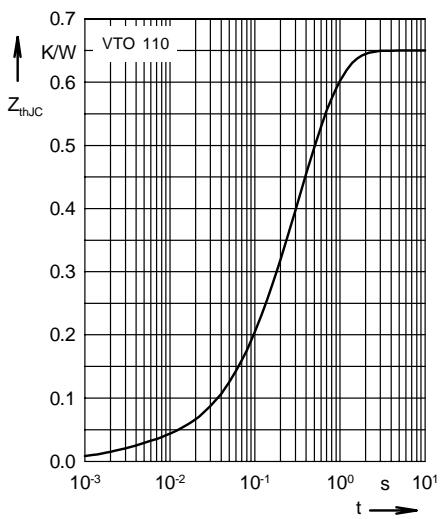


Fig. 4 Transient thermal impedance junction to case (per leg)