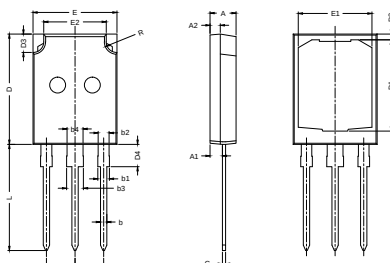
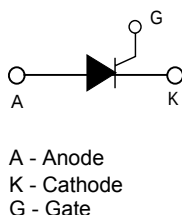
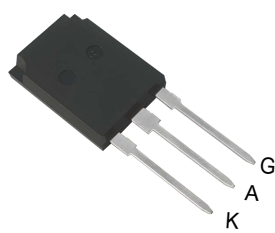


STOE116G12B5

High Efficiency Thyristor Discretes

Dimensions TO-247P



Dim.	Millimeter		Dim.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.85	5.10	D2	0.96	1.25
A1	2.31	2.51	D3	3.35	3.80
A2	1.85	2.10	D4	3.95	4.45
b	1.16	1.26	E	15.80	16.05
b1	/	2.25	E1	13.50	14.40
b2	1.96	2.15	E2	11.25	12.45
b3	/	3.25			
b4	2.96	3.15	e	5.44(BSC)	
c	0.59	0.66	L	19.80	20.25
D	20.85	21.10			
D1	17.15	17.75	R	1.90	2.10

	V_{RRM} V	V_{RSM} V
--	------------------------------------	------------------------------------

STOE116G12B5 1200 1300

Symbol	Test Conditions		Maximum Ratings	Unit
I_{TRMS} I_{TAVM}	T _{VJ} =T _{VJM} T _C =125°C; 180° sine		182 116	A
I_{TSM}	T _{VJ} =45°C V _R =0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	2250 2400	A
	T _{VJ} =T _{VJM} V _R =0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	2000 2150	
i²t	T _{VJ} =45°C V _R =0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	25300 23900	A ² s
	T _{VJ} =T _{VJM} V _R =0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	20000 19100	
(di/dt)_{cr}	T _{VJ} =T _{VJM} f=50Hz, t _p =200us V _D =2/3V _{DRM} I _G =0.3A di _G /dt=0.3A/us		repetitive, I _T =250A non repetitive, I _T =116A	A/us
			150 500	
(dv/dt)_{cr}	T _{VJ} =T _{VJM} ; R _{GK} =∞; method 1 (linear voltage rise)		V _{DR} =2/3V _{DRM}	V/us
P_{GM}	T _{VJ} =T _{VJM} I _T =I _{TAVM}	t _p =30us t _p =300us	10 5	W
P_{GAV}			0.5	W
V_{RGM}			10	V
T_{VJ} T_{VJM} T_{stg}			-55...+125 150 -55...+125	°C
F_c	Mounting force with clip		20...120	N
Weight	typical		6	g

Sirectifier®

STOE116G12B5

High Efficiency Thyristor Discretes

Symbol	Test Conditions	Characteristic Values	Unit
I_R, I_D	$T_{VJ}=T_{VJM}; V_R=V_{RRM}; V_D=V_{DRM}$	3	mA
V_{TM}	$I_{TM}=116A; T_{VJ}=25^{\circ}C$	1.35	V
V_{TO}	For power-loss calculations only ($T_{VJ}=150^{\circ}C$)	0.80	V
r_T		2.7	m Ω
V_{GT}	$V_D=6V;$ $T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	0.9 1.2	V
I_{GT}	$V_D=6V;$ $T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$ $T_{VJ}=125^{\circ}C$	50 80 30	mA
V_{GD}	$T_{VJ}=T_{VJM}; V_D=2/3V_{DRM}$	0.2	V
I_{GD}		3	mA
I_L	$T_{VJ}=25^{\circ}C; t_p=10\mu s;$ $I_G=0.3A; di_G/dt=0.3A/\mu s$	450	mA
I_H	$T_{VJ}=25^{\circ}C; V_D=6V; R_{GK}=\infty$	200	mA
t_{gd}	$T_{VJ}=25^{\circ}C; V_D=1/2V_{DRM}$ $I_G=0.3A; di_G/dt=0.3A/\mu s$	2	μs
R_{thJC}	DC current	0.23	K/W
R_{thch}	DC current	0.24	K/W
a	Max. acceleration, 50 Hz	50	m/s ²

Features / Advantages:

- Thyristor for line frequency
- Glass passivated chip

Applications:

- Line rectifying 50/60 Hz
- Softstart AC motor control
- DC Motor control
- Power converter
- AC power control
- Lighting and temperature control

Package: TO-247P

- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0

Standard applicable to Power Semiconductors

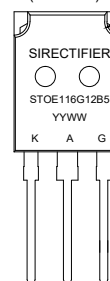
- IEC191-1/4
- IEC747-1
- IEC747-6
- IEC68-2-...
- UL94-V0

Product Reliability

- IEC147-4
- IEC68-2-14
- IEC68-2-20
- IEC68-2-27
- CECC50000-4.4.3

Marking

STOE116G12B5
(TO-247P)



Company Logo

Part Number

Lot No.

ORDERING INFORMATION

Part Number	Package	Shipping	Marking Code
STOE116G12B5	TO-247P	30pcs / Tube	STOE116G12B5

STOE116G12B5

High Efficiency Thyristor Discretes

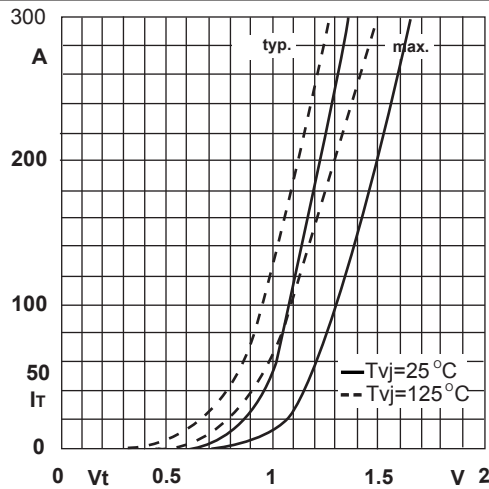


Fig.1 On-state characteristics

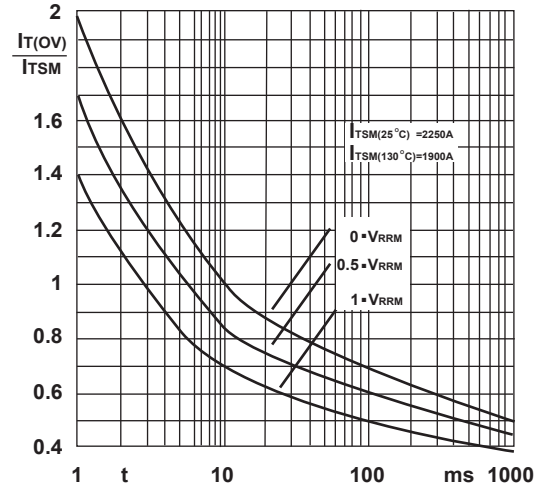


Fig.2 Surge overload current vs. time

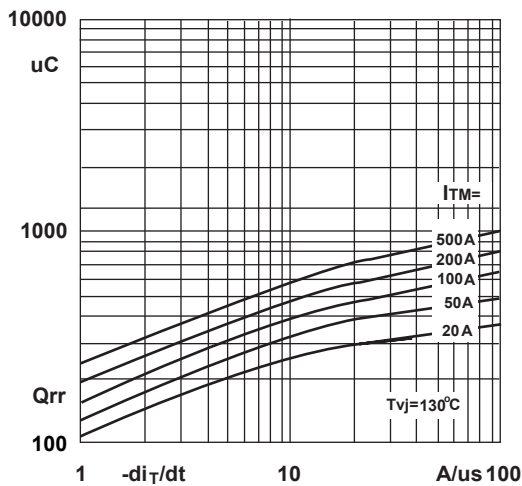


Fig.3 Recovered charge vs. current decrease

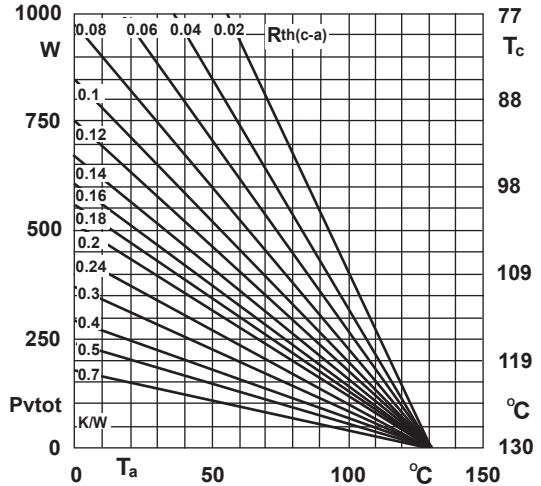


Fig.4 Power dissipation of 6pcs devices vs. case temp

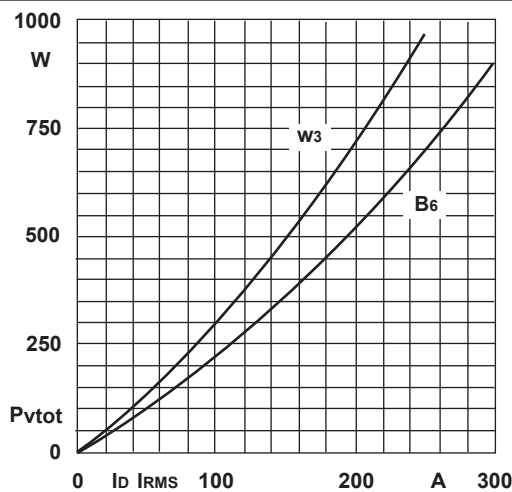


Fig.5 Power dissipation of 6pcs devices vs. direct and rms current

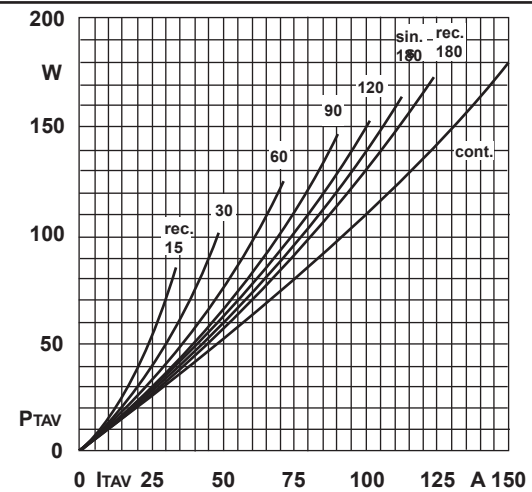


Fig.6 Power dissipation per thyristor vs. on-state current