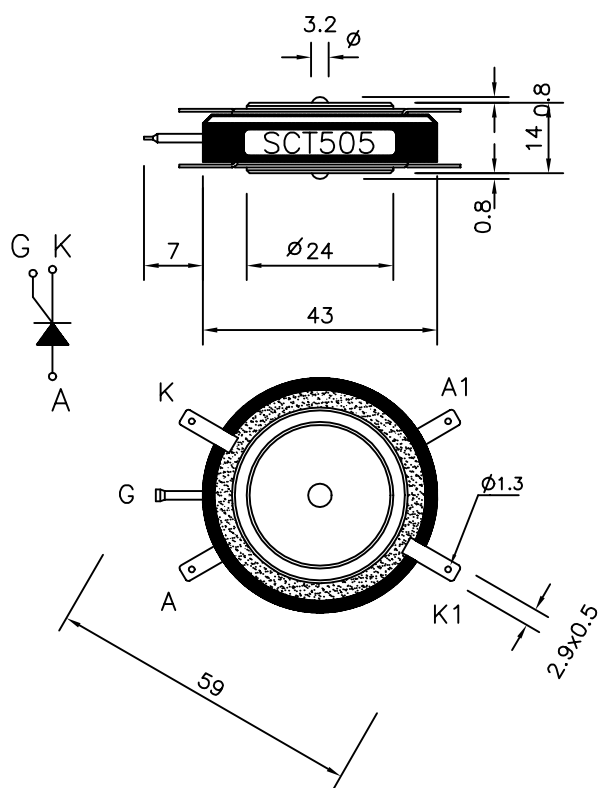


SCT 505.12÷16

PLASTIC CASE

SCT505 .--- .--- .-

Voltage Code	V_{DRM}/V_{DRM} max. repetitive peak and off-state voltage	Current Code	I_{GT} Trigger current	Internal
12	1200 V	04	40 mA	SCOMES Reference
16	1600 V	06	60 mA	
---	-----	08	80 mA	
---	-----	10	100 mA	
---	-----	12	120 mA	
---	-----	14	140 mA	
---	-----	16	160 mA	
---	-----	18	180 mA	
---	-----	20	200 mA	
---	-----	22	220 mA	



ELECTRICAL SPECIFICATIONS

⊗ BLOCKING

Symbol	Characteristic	Conditions	T_J	Value	Units
V_{RRM}	Repetitive peak reverse voltage		125	1200÷1600	V
V_{RSM}	Non-repetitive peak reverse voltage		125	1700	V
V_{DRM}	Repetitive peak off-state voltage		125	1600	V
I_{RRM}	Repetitive peak reverse current	$V=V_{RRM}$	125	30	mA
V_{DRM}	Repetitive peak off-state current	$V=V_{DRM}$	125	30	mA

⊗ SWITCHING

Symbol	Characteristic	Conditions	T_J	Value	Units
di/dt	Critical rate of rise of on-state current, min.	From 75% V_{DRM} up to 450A	125	200	A/ μ s
dv/dt	Critical rate of rise of on-state voltage, min.	Linear ramp up to 70% of V_{DRM}	125	500	V/ μ s
t_d	Gate controlled delay time, typical	$V_D=100V$, gate source 10V, 10ohm, $t_r=5\mu$ s	25	1.6	μ s
t_q	Circuit commutated turn-off time, typical	$dv/dt=20V/\mu$ s linear up to 75% V_{DRM} $di/dt=-20A/\mu$ s, $I=290A$ $V_R=50v$	125	200	μ s
I_H	Holding current typical	$V_D=5V$, gate open circuit	25	300	mA
I_L	Latching current typical	$V_D=5V$, $t_p=30\mu$ s	25	700	mA

⊕ CONDUCTING

Symbol	Characteristic	Conditions	T _J	Value	Units
I _{T(AV)}	Mean on-state current	180° sin. 50Hz, Th=55°C double side cooled		430	A
I _{T(AV)}	Mean on-state current	180° sin. 50Hz, Th=85°C double side cooled		340	A
I _{TSM}	Surge on-state current	sine wave, 10ms without reverse voltage	125	5.6	kA
I ² t	I ² t	sine wave, 10ms without reverse voltage	125	157x1E3	Ås
V _T	On-state voltage	On-state current=800A	25	1.55	V
V _{T(TO)}	Threshold voltage		125	1.00	V
r _T	On-state slope resistance	On-state current=800A	125	0.680	mohm

⊕ GATE

Symbol	Characteristic	Conditions	T _J	Value	Units
V _{GT}	Gate trigger voltage	VD=5V	25	3.5	V
I _{GT}	Gate trigger current	VD=5V	25	200	mA
V _{GD}	Non-trigger gate voltage,min.	VD=VDRM	125	0.25	V
V _{FGM}	Peak gate voltage (forward)			20	V
I _{FGM}	Peak gate current			8	A
V _{RGM}	Peak gate voltage (reverse)			5	V
P _{GM}	Peak gate power dissipation	Pulse width 100µs		75	W
P _G	Average gate power dissipation			1	W

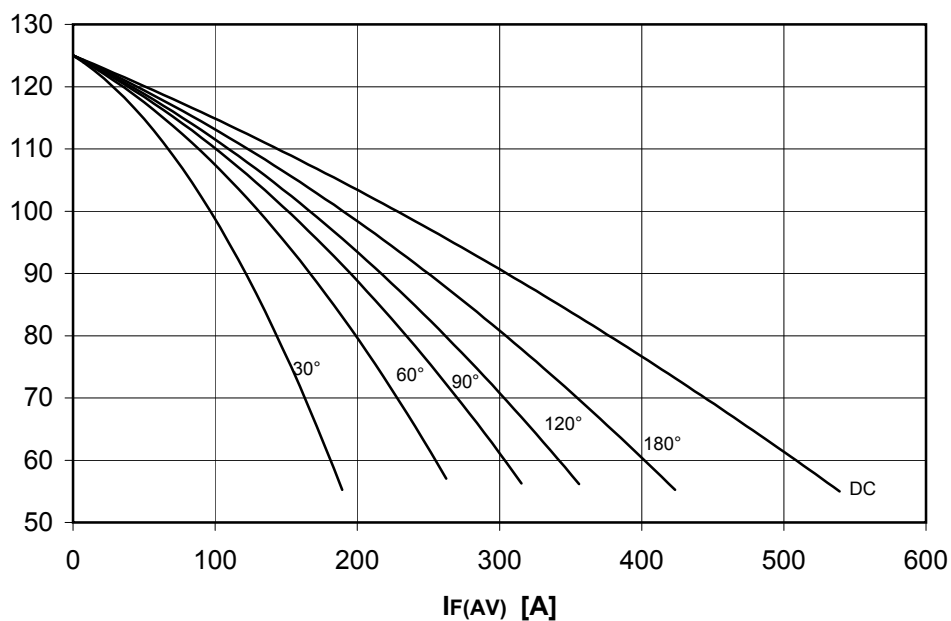
⊕ MOUNTIG

Symbol	Characteristic	Conditions	T _J	Value	Units
R _{th(j-h)}	Thermal impedance,DC	Junction to heatesink, double side cooled		0.11	°C/W
T _J	Operating junction temperature			-30/+125	°C
F	Mounting force			4.9/5.9	kN
	Mass			68	g

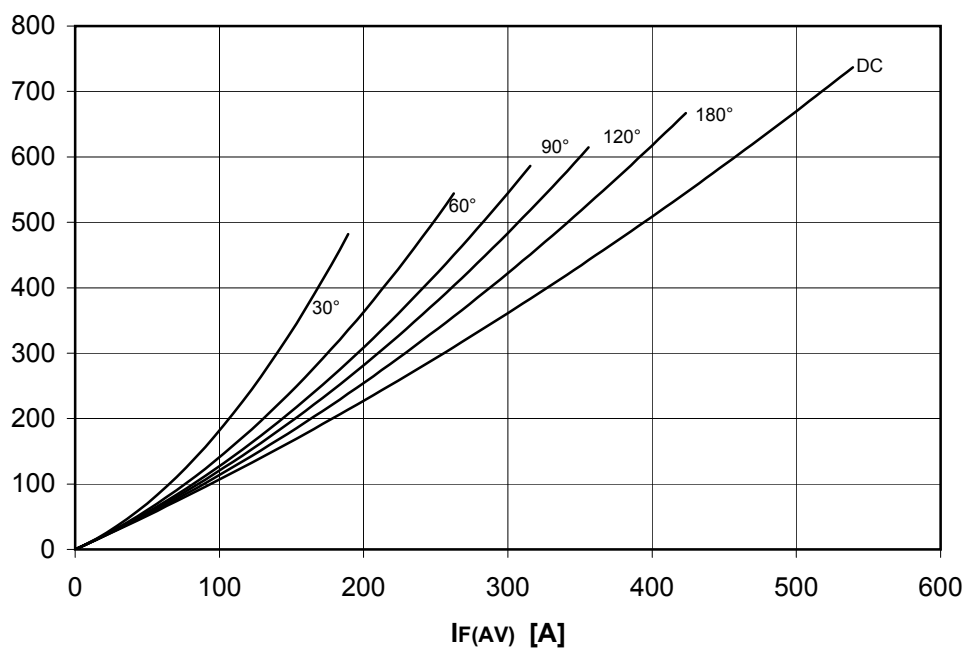
DISSIPATION CHARACTERISTICS

SQUARE WAVE

Th [°C]



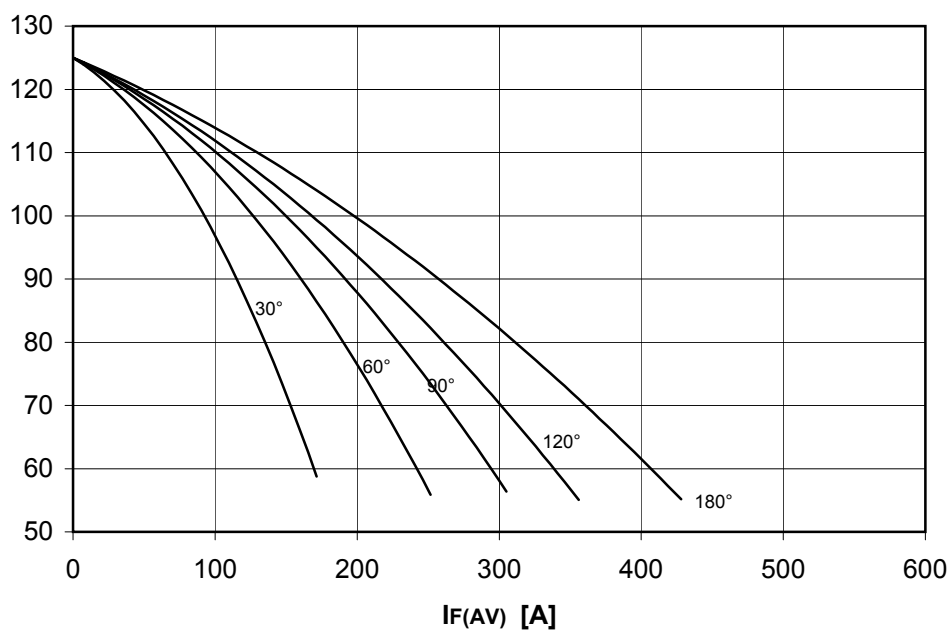
PF(AV) [W]



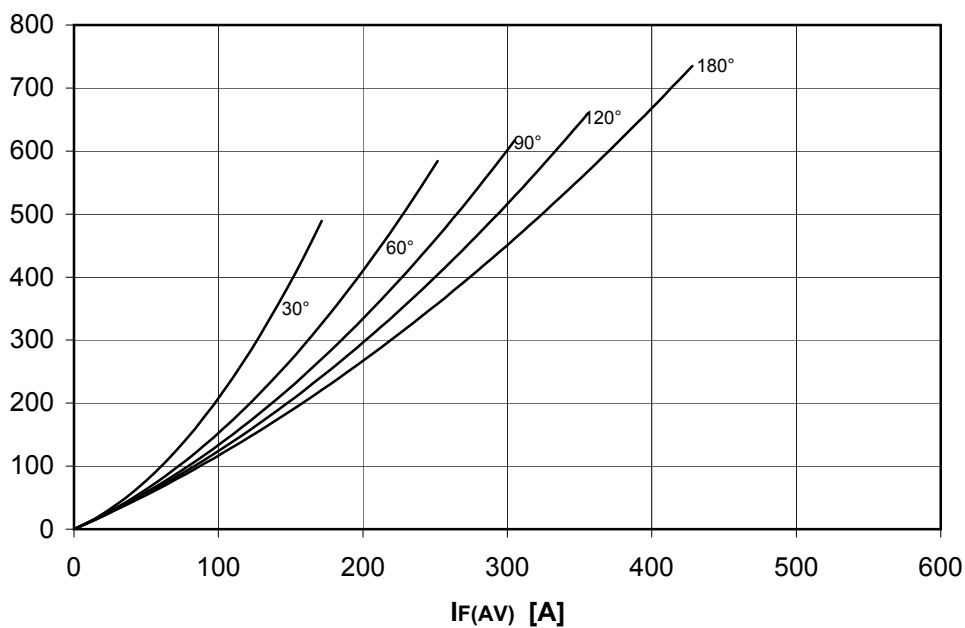
DISSIPATION CHARACTERISTICS

SINE WAVE

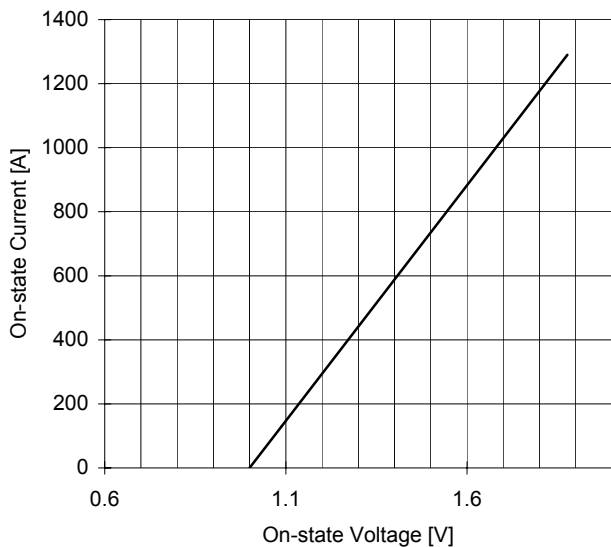
Th [°C]



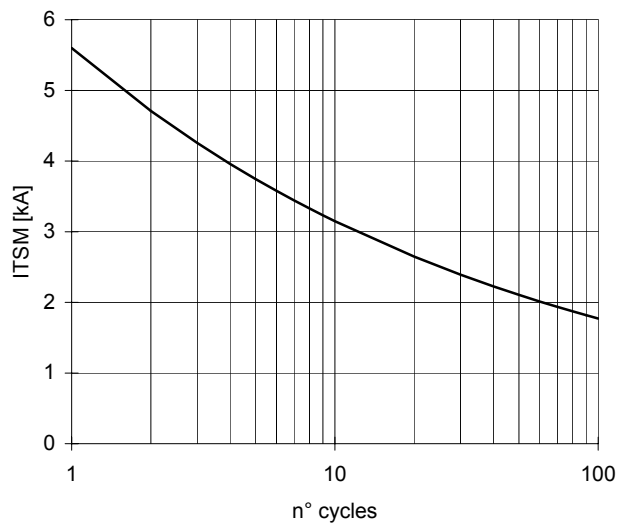
PF(AV) [W]



ON-STATE CHARACTERISTIC
 $T_j = 125\text{ }^\circ\text{C}$



SURGE CHARACTERISTIC
 $T_j = 125\text{ }^\circ\text{C}$



TRANSIENT THERMAL IMPEDANCE
DOUBLE SIDE COOLED

