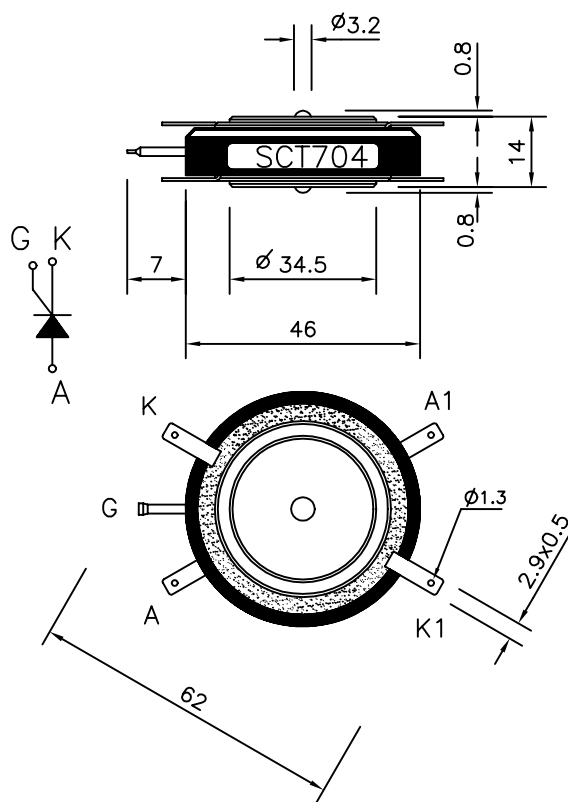


# SCT 704.12÷16

## PLASTIC CASE

SCT704 .-- .-- .-

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
16	1600 V	06	60 mA	
--	-----	08	80 mA	Reference
--	-----	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	50	mA
$V_{DRM}$	Repetitive peak off-state current	$V=V_{DRM}$	125	50	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 720A Gate 10V 50hm	125	200	A/ $\mu$ s
$dv/dt$	Critical rate of rise of on-state voltage, min.	Linear ramp up to 70% of $V_{DRM}$	125	500	V/ $\mu$ s
$t_d$	Gate controlled delay time, typical	$V_D=100V$ , gate source 10V, 10ohm, $t_r=5\mu$ s	25	1.3	$\mu$ 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, $I=470A$ $V_R=50v$	125	250	$\mu$ 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 <sub>J</sub>	Value	Units
I <sub>T(AV)</sub>	Mean on-state current	180° sin. 50Hz, Th=55°C double side cooled		640	A
I <sub>T(AV)</sub>	Mean on-state current	180° sin. 50Hz, Th=85°C double side cooled		515	A
I <sub>TSM</sub>	Surge on-state current	sine wave, 10ms without reverse voltage	125	8	kA
I <sup>2</sup> t	I <sup>2</sup> t	sine wave, 10ms without reverse voltage	125	320x1E3	Ås
V <sub>T</sub>	On-state voltage	On-state current=1000A	25	158	V
V <sub>T(TO)</sub>	Treshold voltage		125	0.86	V
r <sub>T</sub>	On-state slope resistance	On-state current=800A	125	0.790	mohm

### ⊕ GATE

Symbol	Characteristic	Conditions	T <sub>J</sub>	Value	Units
V <sub>GT</sub>	Gate trigger voltage	VD=5V	25	3.5	V
I <sub>GT</sub>	Gate trigger current	VD=5V	25	200	mA
V <sub>GD</sub>	Non-trigger gate voltage,min.	VD=VDRM	125	0.25	V
V <sub>FGM</sub>	Peak gate voltage (forward)			30	V
I <sub>FGM</sub>	Peak gate current			10	A
V <sub>RGM</sub>	Peak gate voltage (reverse)			5	V
P <sub>GM</sub>	Peak gate power dissipation	Pulse width 100µs		150	W
P <sub>G</sub>	Average gate power dissipation			2	W

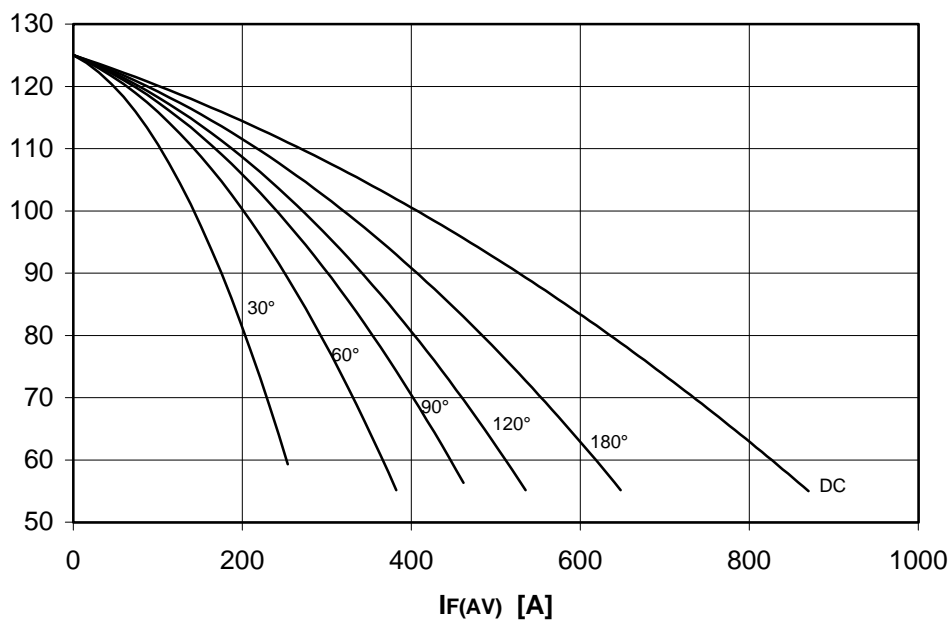
### ⊕ MOUNTIG

Symbol	Characteristic	Conditions	T <sub>J</sub>	Value	Units
R <sub>th(j-h)</sub>	Thermal impedance,DC	Junction to heatesink, double side cooled		0.06	°C/W
T <sub>J</sub>	Operating junction temperature			-30/+125	°C
F	Mounting force			4.9/5.9	kN
	Mass			98	g

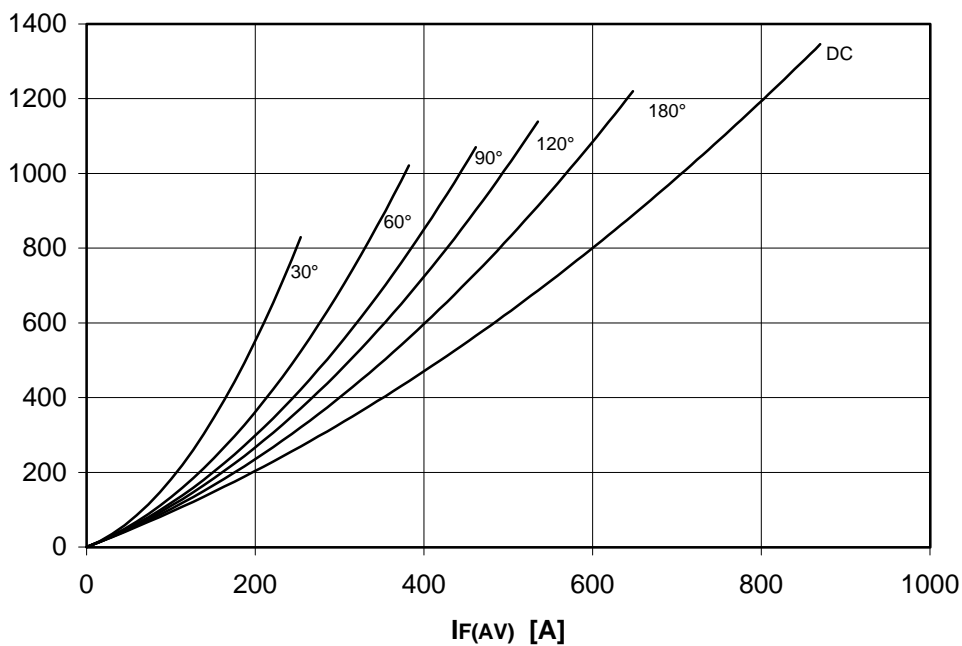
**DISSIPATION CHARACTERISTICS**

**SQUARE WAVE**

**Th [°C]**



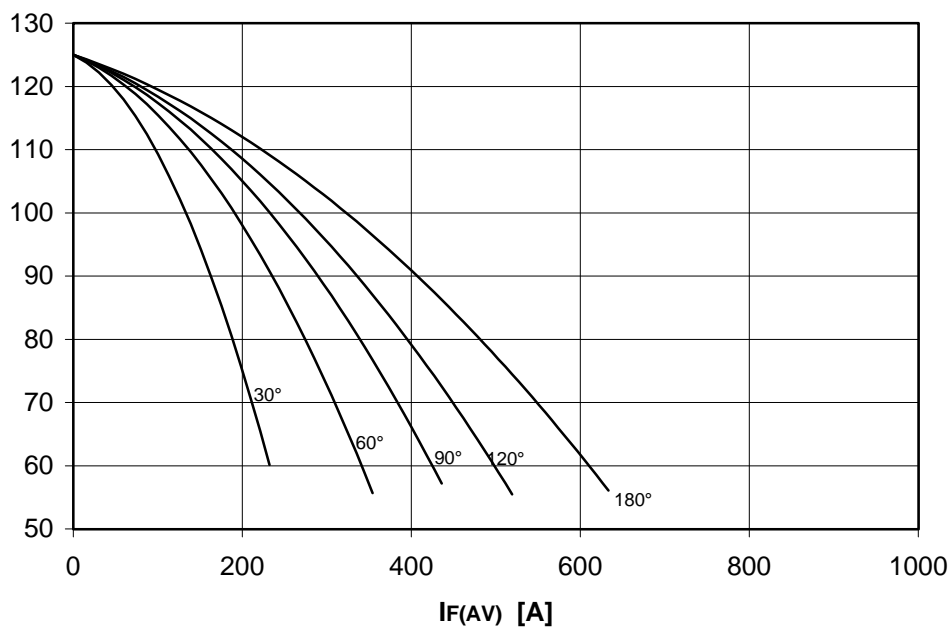
**PF(AV) [W]**



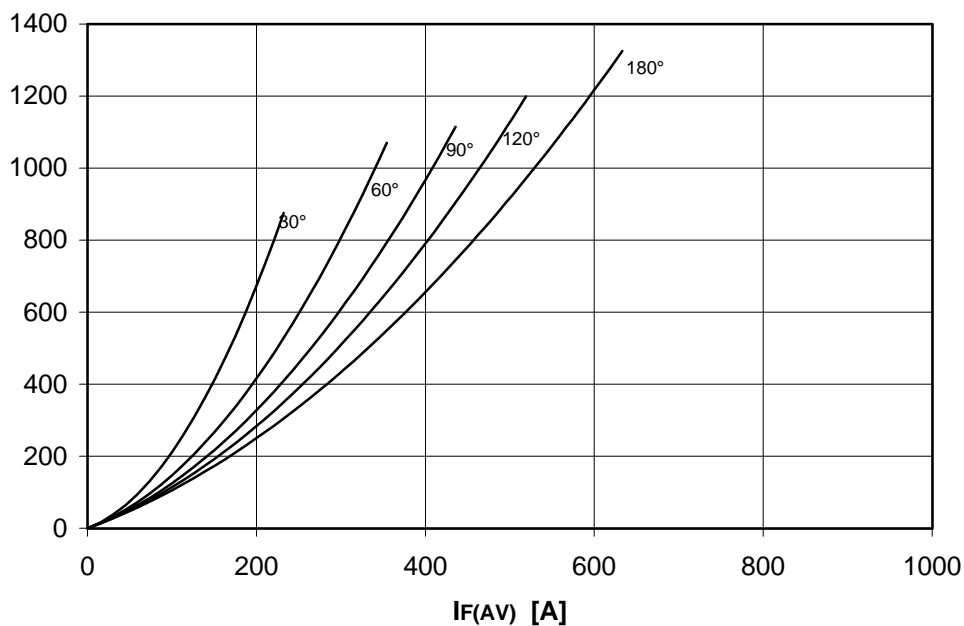
**DISSIPATION CHARACTERISTICS**

SINE WAVE

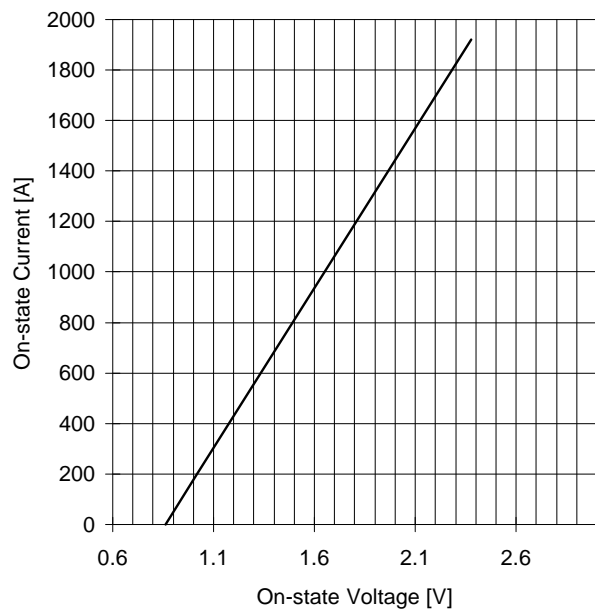
**Th [°C]**



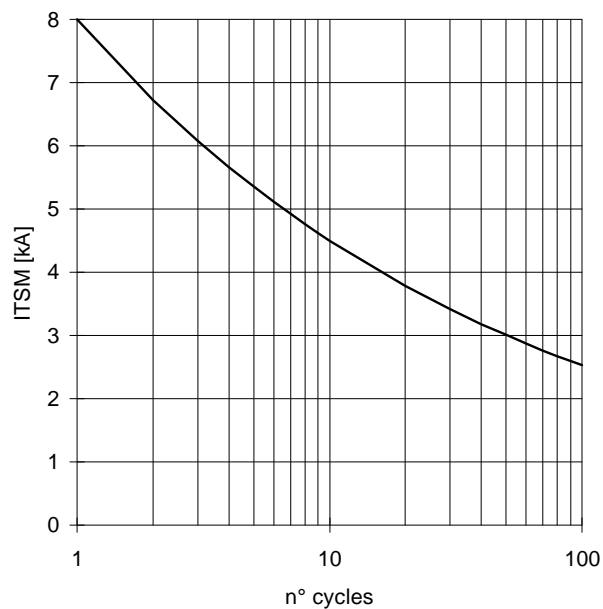
**PF(AV) [W]**



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

