SKKQ 45

SEMIPACK® 0

Antiparallel Thyristor Module

SKKQ 31

Preliminary Data

Features

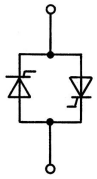
- Compact Design
- Heat transfer through aluminium oxide ceramic isolated metal baseplat
- UL recognized, file no. E 63 532

Typical Applications*

- AC motor starters
- Light control (studios, theaters...)
- Temperature control

V_{RSM} V	V_{RRM}, V_{DRM} V	I_{RMS} = 24 A[1]; 45 A[2] A (full conduction) (T_s = 85 °C)
700	600	SKKQ 45/06 E
900	800	SKKQ 45/08 E
1300	1200	SKKQ 45/12 E
1500	1400	SKKQ 45/14 E
1700	1600	SKKQ 45/16 E

Symbol	Conditions	Values	Units
I_{RMS}	W1C ; sin. 180° ; Tcase = 85°C(2)	45	A
	; sin. 180° ;		A
$I_{t\ RMS}$	W1C, sin. 180°, Tcase=85°C	32	A
I_{TSM}	T_{vj} = 25 °C ; 10 ms	470	A
	T_{vj} = 125 °C ; 10 ms	400	A
i²t	T_{vj} = 25 °C ; 8,3...10 ms	1100	A²s
	T_{vj} = 125 °C ; 8,3...10 ms	800	A²s
V_T	T_{vj} = 25 °C, I_T = 75 A	max. 1,8	V
$V_{T(TO)}$	T_{vj} = 125 °C	max. 0,9	V
r_T	T_{vj} = 125 °C	max. 12	mΩ
I_{DD};I_{RD}	T_{vj} = 25 °C, V_{RD}=V_{RRM}		mA
	T_{vj} = 125 °C, V_{RD}=V_{RRM}	max. 10	mA
t_{gd}	T_{vj} = 25 °C, I_G = 1 A; di_G/dt= 1 A/µs	1	µs
t_{gr}	V_D = 0,67 *V_{DRM}	1	µs
$(dv/dt)_{cr}$	T_{vj} = 125 °C	1000	V/µs
$(di/dt)_{cr}$	T_{vj} = 125 °C; f= 50...60 Hz	100	A/µs
t_q	T_{vj} = 125 °C; typ.	80	µs
I_H	T_{vj} = 25 °C; typ. / max.	100 / 200	mA
I_L	T_{vj} = 25 °C; R_G = 33 Ω; typ. / max.	250 / 400	mA
V_{GT}	T_{vj} = 25 °C; d.c.	min. 3	V
I_{GT}	T_{vj} = 25 °C; d.c.	min. 150	mA
V_{GD}	T_{vj} = 125 °C; d.c.	max. 0,25	V
I_{GD}	T_{vj} = 125 °C; d.c.	max. 5	mA
$R_{th(j-s)}$	cont. per thyristor	1,2	K/W
	sin 180° per thyristor	1,3	K/W
$R_{th(j-s)}$	cont. per W1C	0,6	K/W
	sin 180° per W1C	0,6	K/W
T_{vj}		-40 ... +125	°C
T_{stg}		-40 ... +125	°C
	terminals, 10s		°C
V_{isol}	a. c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 / 3000	V~
M_s	Mounting torque to heatsink	1,5	Nm
M_t			Nm
a			m/s²
m		50	g
Case	SEMIPACK® 0	A 41	



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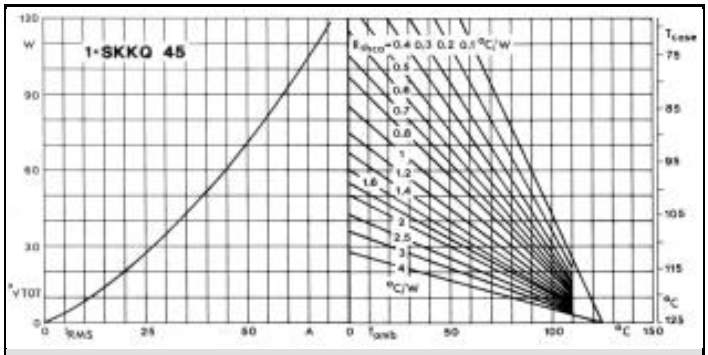


Fig. 1 Power dissipation per module vs. r.m.s. current

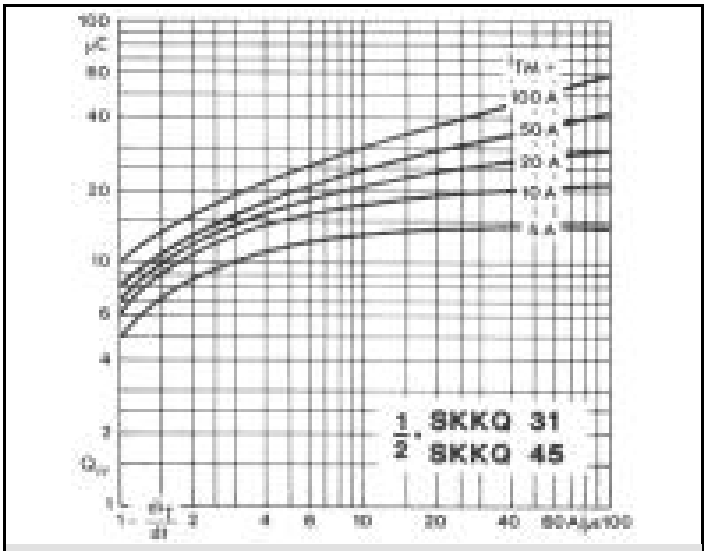


Fig. 2 Recovered charge vs. current decrease

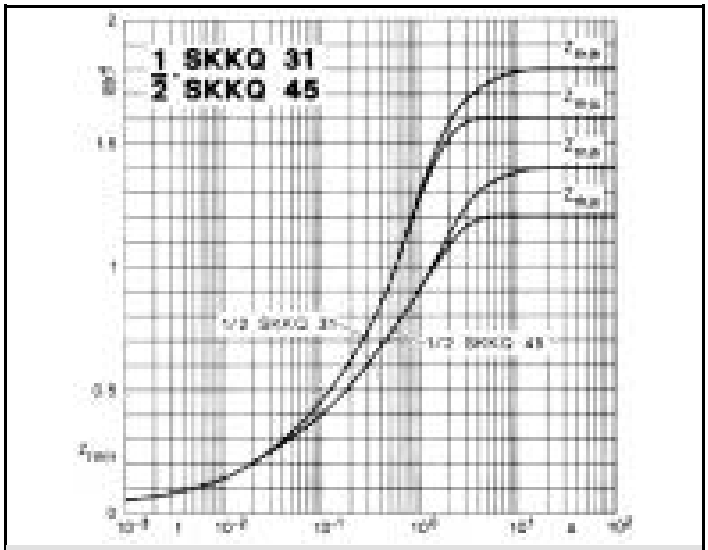


Fig. 3 Transient thermal impedance vs. time

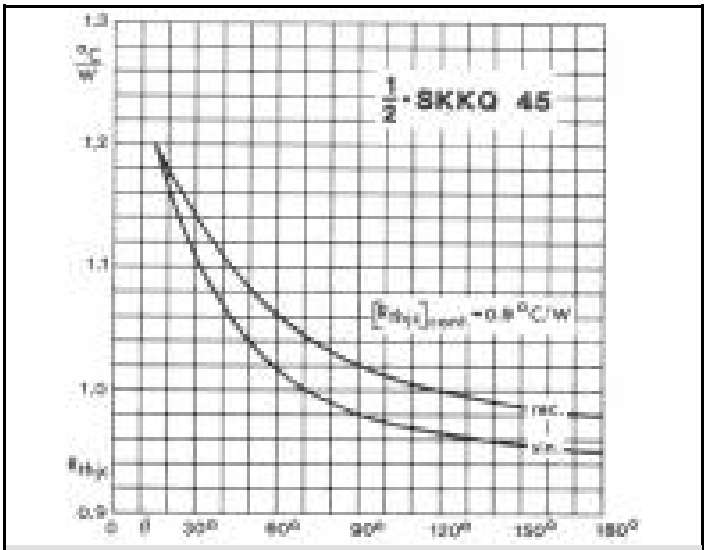


Fig. 4 Thermal resistance vs. conduction angle

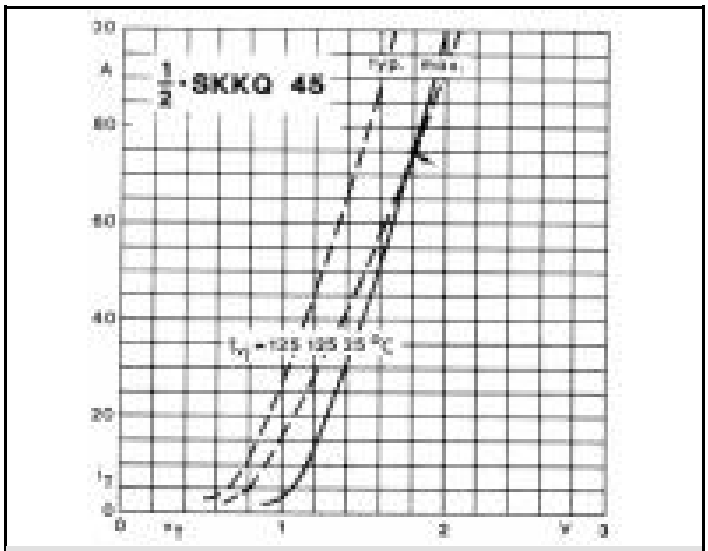


Fig. 5 On-state characheristics

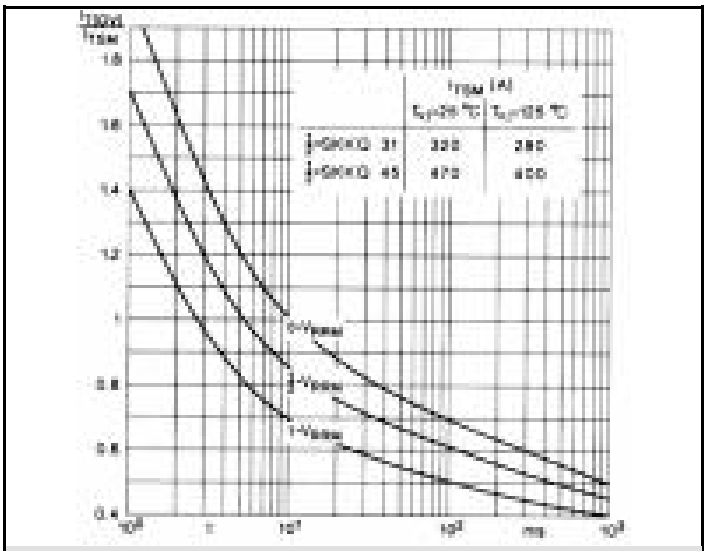


Fig. 6 Surge overload current vs. time

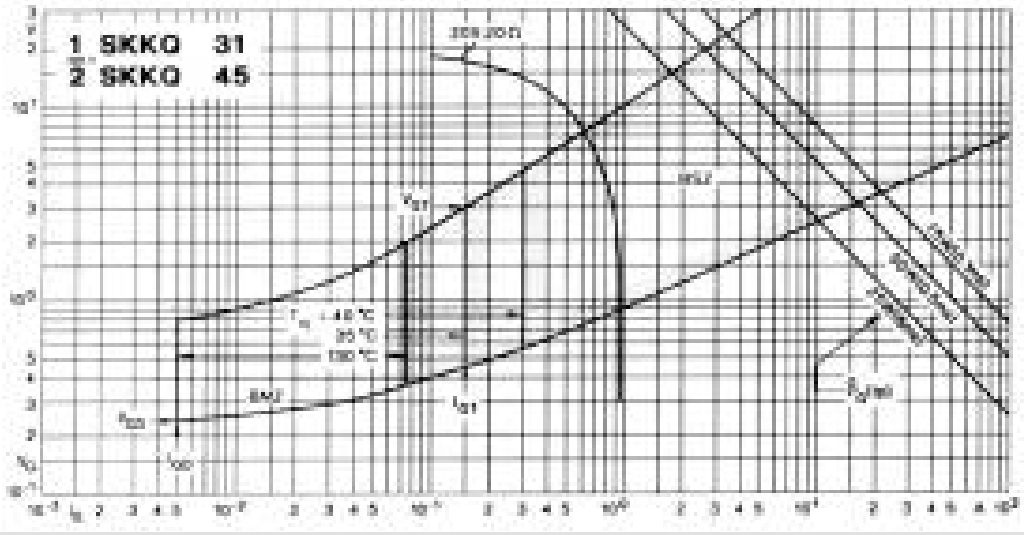
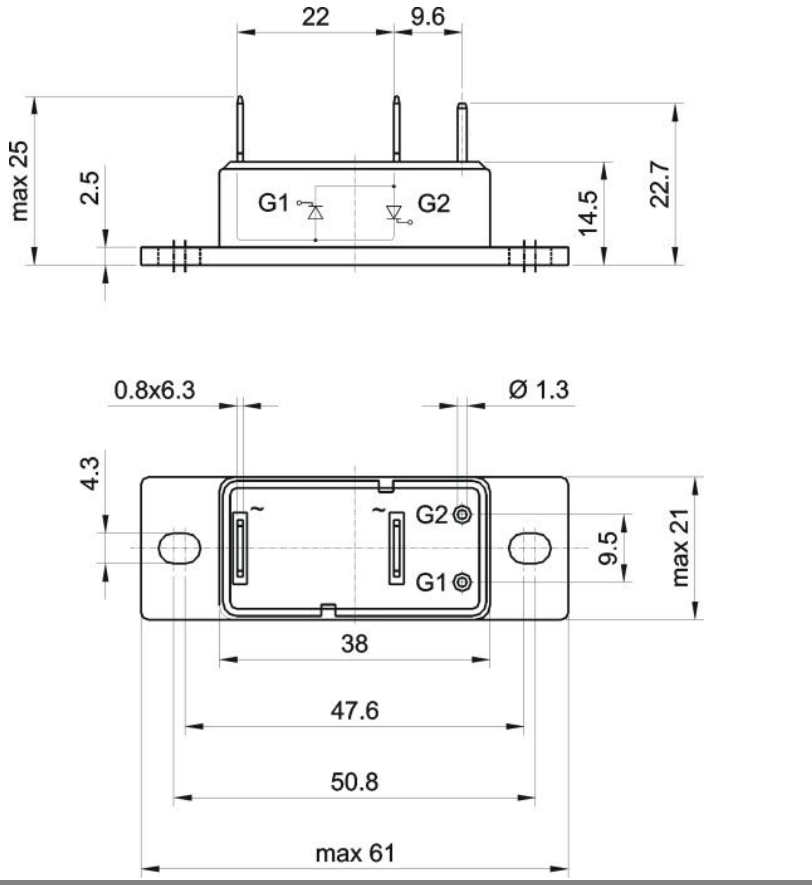


Fig. 5 Gate trigger characteristics

Dimensions in mm



Case A41

* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.

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