

# SKKT 132, SKKH 132, SKNH 132



**SEMIPACK<sup>®</sup> 2**

## Thyristor / Diode Modules

**SKKT 132**

**SKKH 132**

**SKNH 132**

### Features

- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- UL recognized, file no. E 63 532

### Typical Applications

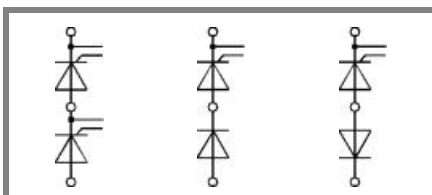
- DC motor control (e. g. for machine tools)
- Temperature control (e. g. for ovens, chemical processes)
- Professional light dimming (studios, theaters)
- DC braking of AC motors (SKNH)

1) SKNH 132 available on request

2) See the assembly instructions

$V_{RSM}$ V	$V_{RRM}, V_{DRM}$ V	$I_{TRMS} = 220$ A (maximum value for continuous operation) $I_{TAV} = 130$ A (sin. 180; $T_c = 87$ °C)		
900	800	SKKT 132/08D	SKKH 132/08D	SKNH 132/12E <sup>1)</sup>
1300	1200	SKKT 132/12E	SKKH 132/12E	
1500	1400	SKKT 132/14E	SKKH 132/14E	
1700	1600	SKKT 132/16E	SKKH 132/16E	
1900	1800	SKKT 132/18E	SKKH 132/18E	SKNH 132/18E H4 <sup>1)</sup>

Symbol	Conditions	Values	Units
$I_{TAV}$	sin. 180; $T_c = 85$ (100) °C	137 (96)	A
$I_D$	P3/180; $T_a = 45$ °C; B2 / B6	77 / 100	A
	P3/180F; $T_a = 35$ °C; B2 / B6	170 / 200	A
$I_{RMS}$	P3/180F; $T_a = 35$ °C; W1 / W3	240 / 3 * 163	A
$I_{TSM}$	$T_{vj} = 25$ °C; 10 ms	4700	A
	$T_{vj} = 125$ °C; 10 ms	4000	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms	110000	A <sup>2</sup> s
	$T_{vj} = 125$ °C; 8,3 ... 10 ms	80000	A <sup>2</sup> s
$V_T$	$T_{vj} = 25$ °C; $I_T = 500$ A	max. 1,8	V
$V_{T(TO)}$	$T_{vj} = 125$ °C	1	V
$r_T$	$T_{vj} = 125$ °C	1,6	mΩ
$I_{DD}; I_{RD}$	$T_{vj} = 125$ °C; $V_{RD} = V_{RRM}; V_{DD} = V_{DRM}$	max. 40	mA
$t_{gd}$	$T_{vj} = 25$ °C; $I_G = 1$ A; $di_G/dt = 1$ A/μs	1	μs
$t_{gr}$	$V_D = 0,67 * V_{DRM}$	2	μs
$(di/dt)_{cr}$	$T_{vj} = 125$ °C	max. 200	A/μs
$(dv/dt)_{cr}$	$T_{vj} = 125$ °C; SKK ...D / SKK ...E	max. 500 / 1000	V/μs
$t_q$	$T_{vj} = 125$ °C	50 ... 150	μs
$I_H$	$T_{vj} = 25$ °C; typ. / max.	150 / 400	mA
$I_L$	$T_{vj} = 25$ °C; $R_G = 33$ Ω; typ. / max.	300 / 1000	mA
$V_{GT}$	$T_{vj} = 25$ °C; d.c.	min. 2	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. 10	mA
$R_{th(j-c)}$	cont.; per thyristor / per module	0,18 / 0,09	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,19 / 0,095	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	0,21 / 0,105	K/W
$R_{th(c-s)}$	per thyristor / per module	0,1 / 0,05	K/W
$T_{vj}$		- 40 ... + 125	°C
$T_{stg}$		- 40 ... + 125	°C
$V_{isol}$	a. c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 / 3000	V~
$M_s$	a. c. 50 Hz; r.m.s.; 1 s / 1 min. for SKK ...H4	4800 / 4000	V~
$M_s$	to heatsink	5 ± 15 % <sup>2)</sup>	Nm
$M_t$	to terminal	5 ± 15 %	Nm
$a$		5 * 9,81	m/s <sup>2</sup>
$m$	approx.	165	g
Case	SKKT	A 21	
	SKKH	A 22	
	SKNH	A 61	



SKKT

SKKH

SKNH

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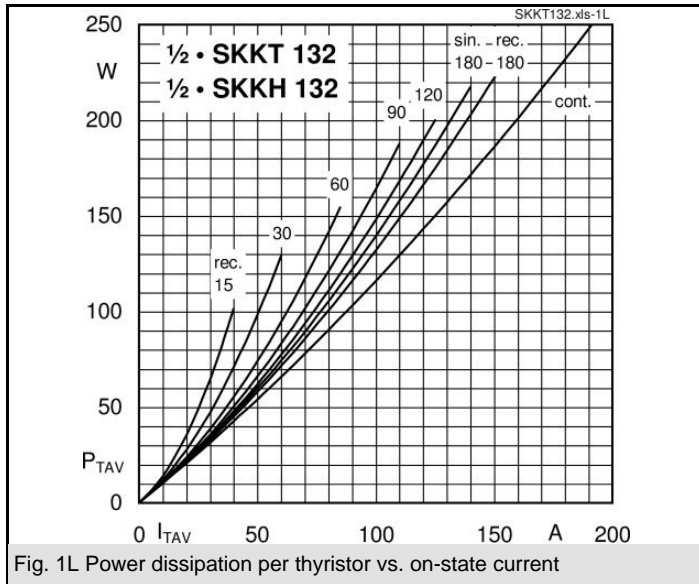


Fig. 1L Power dissipation per thyristor vs. on-state current

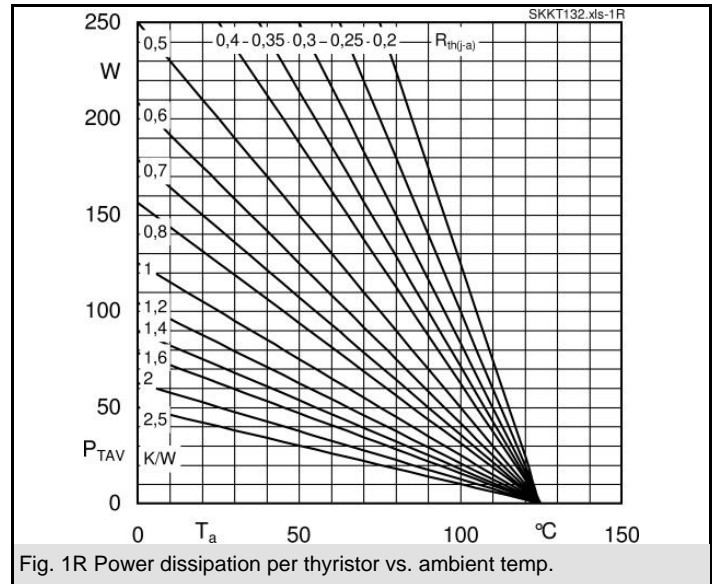


Fig. 1R Power dissipation per thyristor vs. ambient temp.

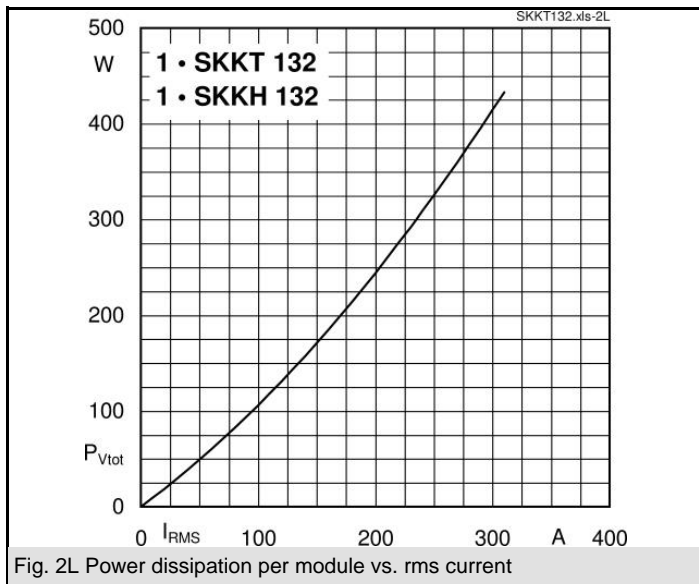


Fig. 2L Power dissipation per module vs. rms current

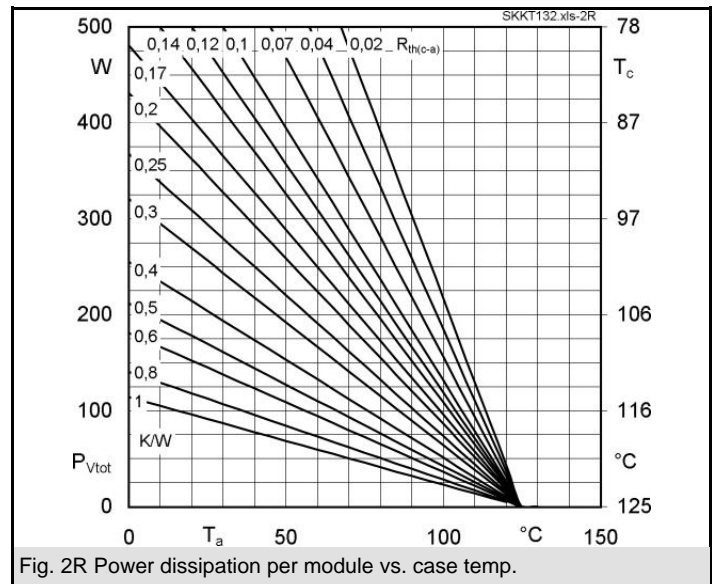


Fig. 2R Power dissipation per module vs. case temp.

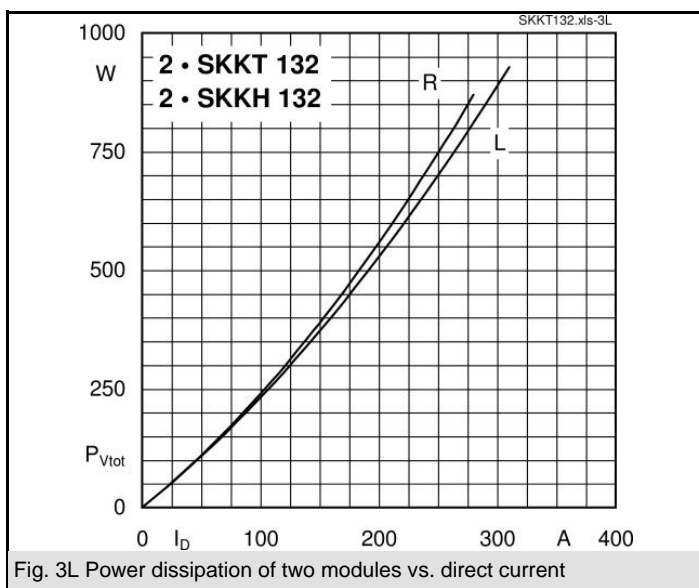


Fig. 3L Power dissipation of two modules vs. direct current

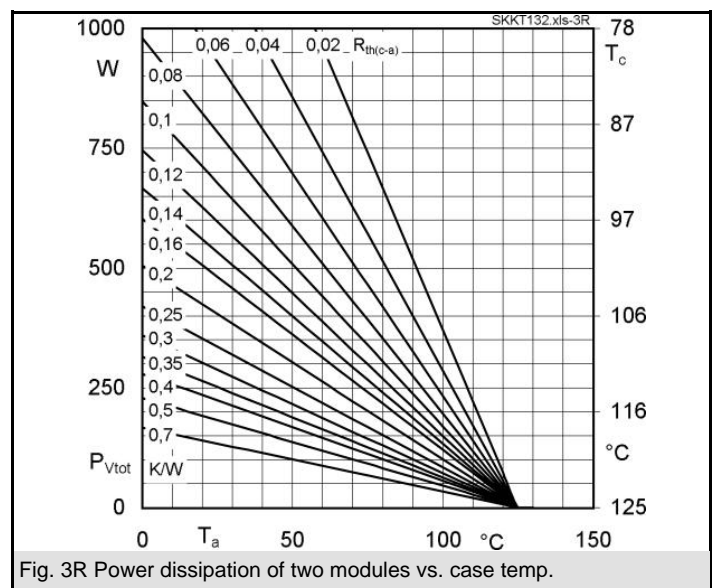
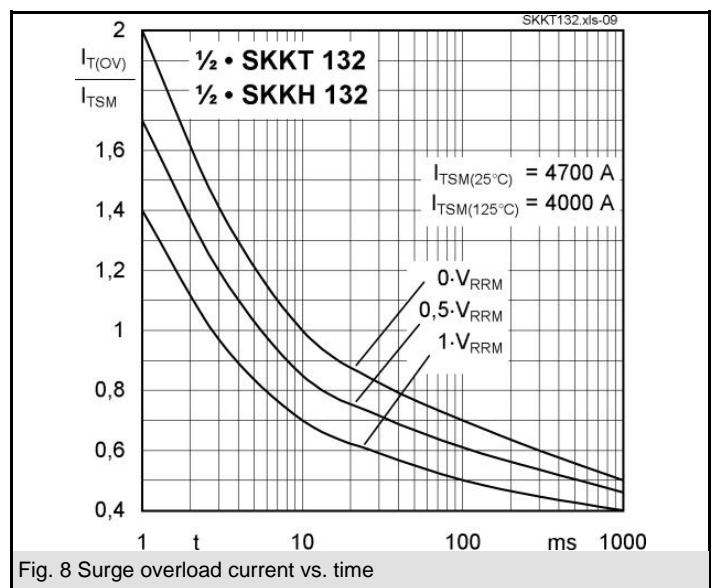
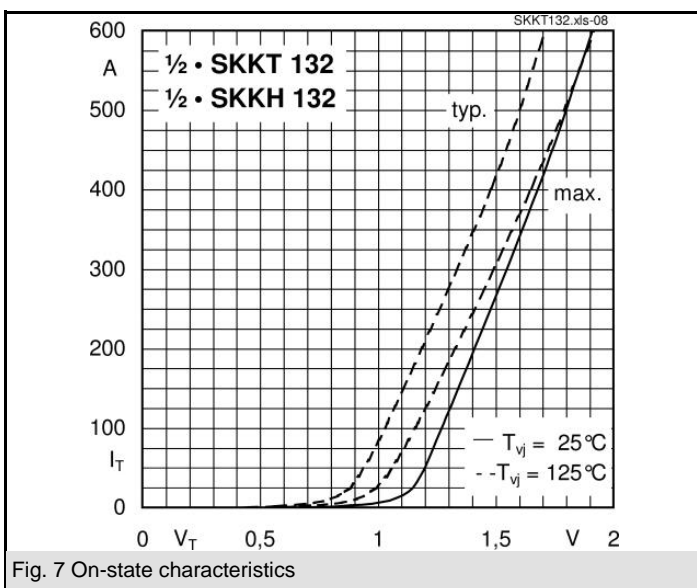
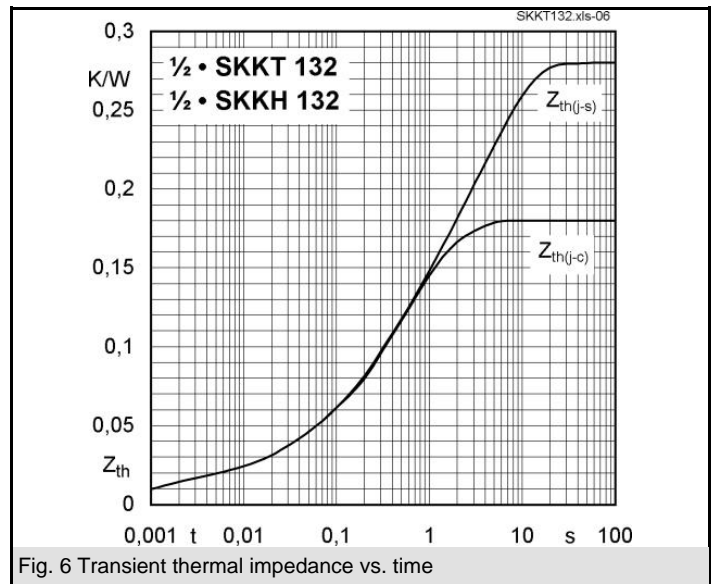
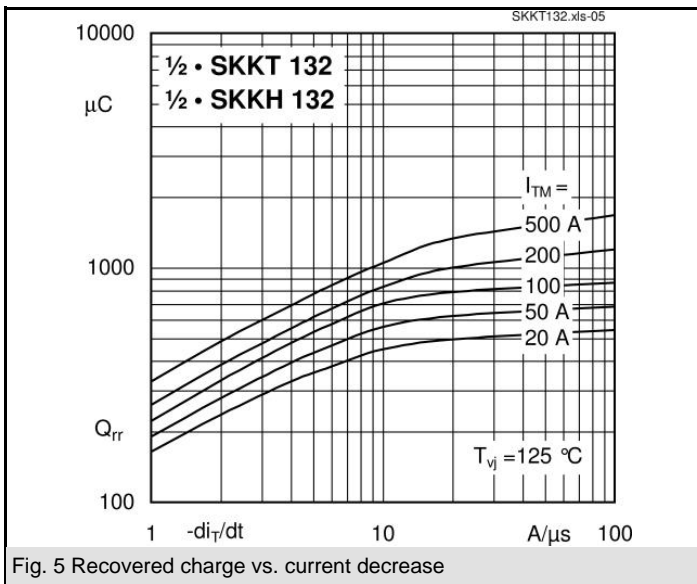
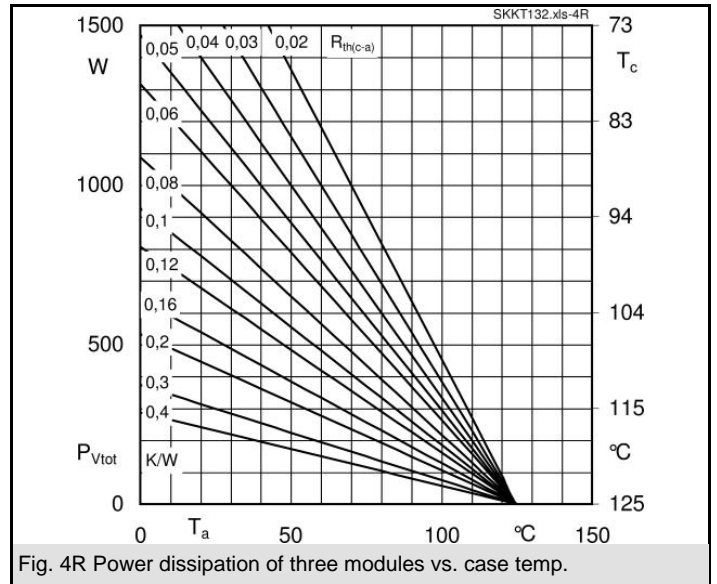
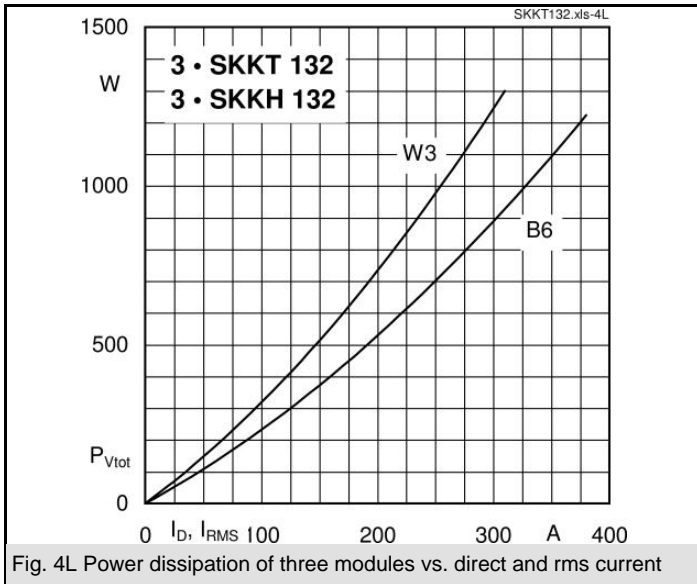
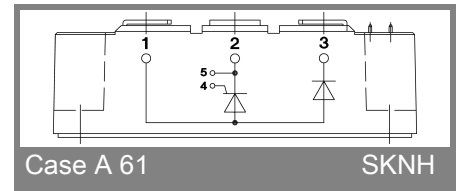
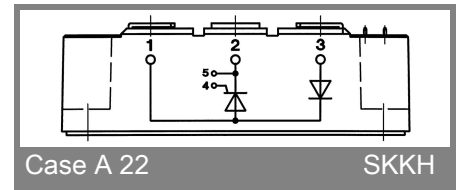
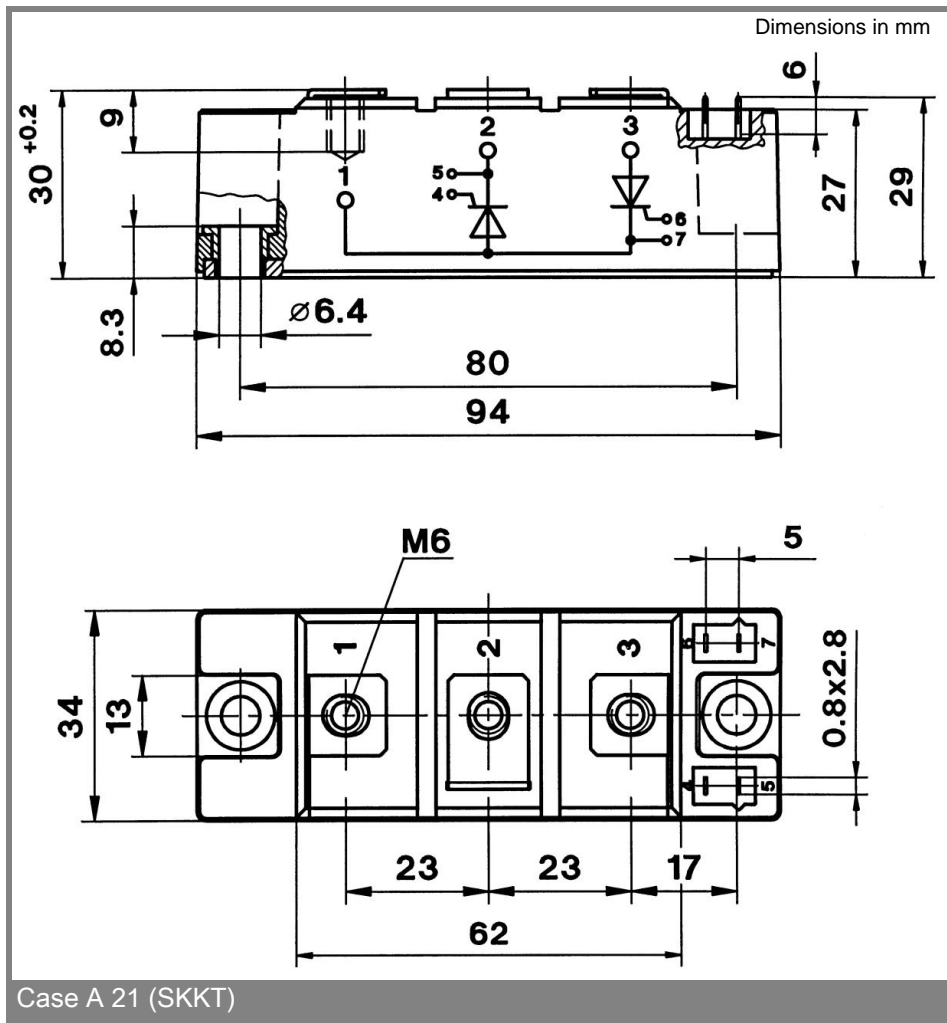


Fig. 3R Power dissipation of two modules vs. case temp.

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