

# SKKT 122, SKKH 122



**SEMIPACK<sup>®</sup> 2**

## Thyristor / Diode Modules

**SKKT 122**

**SKKH 122**

### 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)
- Softstarter
- Temperature control (e. g. for ovens, chemical processes)
- Professional light dimming (studios, theaters)

1) See the assembly instructions

$V_{RSM}$ V	$V_{RRM}, V_{DRM}$ V	$I_{TRMS} = 195 \text{ A}$ (maximum value for continuous operation) $I_{TAV} = 122 \text{ A}$ (sin. 180; $T_c = 88 \text{ }^\circ\text{C}$ )	
900	800	SKKT 122/08D	SKKH 122/08D
1300	1200	SKKT 122/12E	SKKH 122/12E
1500	1400	SKKT 122/14E	SKKH 122/14E
1700	1600	SKKT 122/16E	SKKH 122/16E
1900	1800	SKKT 122/18E	SKKH 122/18E

Symbol	Conditions	Values	Units
$I_{TAV}$	sin. 180; $T_c = 85 (100) \text{ }^\circ\text{C}$	129 (92)	A
$I_D$	P3/180; $T_a = 45 \text{ }^\circ\text{C}$ ; B2 / B6	82 / 105	A
	P3/180F; $T_a = 35 \text{ }^\circ\text{C}$ ; B2 / B6	170 / 200	A
$I_{RMS}$	P3/180F; $T_a = 35 \text{ }^\circ\text{C}$ ; W1 / W3	235 / 3 * 160	A
$I_{TSM}$	$T_{vj} = 25 \text{ }^\circ\text{C}$ ; 10 ms	3600	A
	$T_{vj} = 125 \text{ }^\circ\text{C}$ ; 10 ms	3200	A
$i^2t$	$T_{vj} = 25 \text{ }^\circ\text{C}$ ; 8,3 ... 10 ms	64800	A <sup>2</sup> s
	$T_{vj} = 125 \text{ }^\circ\text{C}$ ; 8,3 ... 10 ms	51200	A <sup>2</sup> s
$V_T$	$T_{vj} = 25 \text{ }^\circ\text{C}$ ; $I_T = 360 \text{ A}$	max. 1,55	V
$V_{T(TO)}$	$T_{vj} = 125 \text{ }^\circ\text{C}$	0,85	V
$r_T$	$T_{vj} = 125 \text{ }^\circ\text{C}$	2	m $\Omega$
$I_{DD}; I_{RD}$	$T_{vj} = 125 \text{ }^\circ\text{C}$ ; $V_{RD} = V_{RRM}$ ; $V_{DD} = V_{DRM}$	max. 40	mA
$t_{gd}$	$T_{vj} = 25 \text{ }^\circ\text{C}$ ; $I_G = 1 \text{ A}$ ; $di_G/dt = 1 \text{ A}/\mu\text{s}$	1	$\mu\text{s}$
$t_{gr}$	$V_D = 0,67 * V_{DRM}$	2	$\mu\text{s}$
$(di/dt)_{cr}$	$T_{vj} = 125 \text{ }^\circ\text{C}$	max. 200	A/ $\mu\text{s}$
$(dv/dt)_{cr}$	$T_{vj} = 125 \text{ }^\circ\text{C}$ ; SKK ...D / SKK ...E	max. 500 / 1000	V/ $\mu\text{s}$
$t_q$	$T_{vj} = 125 \text{ }^\circ\text{C}$	120	$\mu\text{s}$
$I_H$	$T_{vj} = 25 \text{ }^\circ\text{C}$ ; typ. / max.	100 / 300	mA
$I_L$	$T_{vj} = 25 \text{ }^\circ\text{C}$ ; $R_G = 33 \text{ } \Omega$ ; typ. / max.	200 / 500	mA
$V_{GT}$	$T_{vj} = 25 \text{ }^\circ\text{C}$ ; d.c.	min. 2	V
$I_{GT}$	$T_{vj} = 25 \text{ }^\circ\text{C}$ ; d.c.	min. 150	mA
$V_{GD}$	$T_{vj} = 125 \text{ }^\circ\text{C}$ ; d.c.	max. 0,25	V
$I_{GD}$	$T_{vj} = 125 \text{ }^\circ\text{C}$ ; d.c.	max. 10	mA
$R_{th(j-c)}$	cont.; per thyristor / per module	0,2 / 0,1	K/W
	sin. 180; per thyristor / per module	0,21 / 0,105	K/W
	rec.120; per thyristor / per module	0,22 / 0,11	K/W
$R_{th(c-s)}$	per thyristor / per module	0,13 / 0,065	K/W
$T_{vj}$		- 40 ... + 125	$^\circ\text{C}$
$T_{stg}$		- 40 ... + 125	$^\circ\text{C}$
$V_{isol}$	a. c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 / 3000	V~
$M_s$	to heatsink	$5 \pm 15 \text{ } \%$ <sup>1)</sup>	Nm
$M_t$	to terminal	$5 \pm 15 \text{ } \%$	Nm
$a$		$5 * 9,81$	m/s <sup>2</sup>
$m$	approx.	165	g
Case	SKKT	A 21	
	SKKH	A 22	



SKKT

SKKH

# SKKT 122, SKKH 122

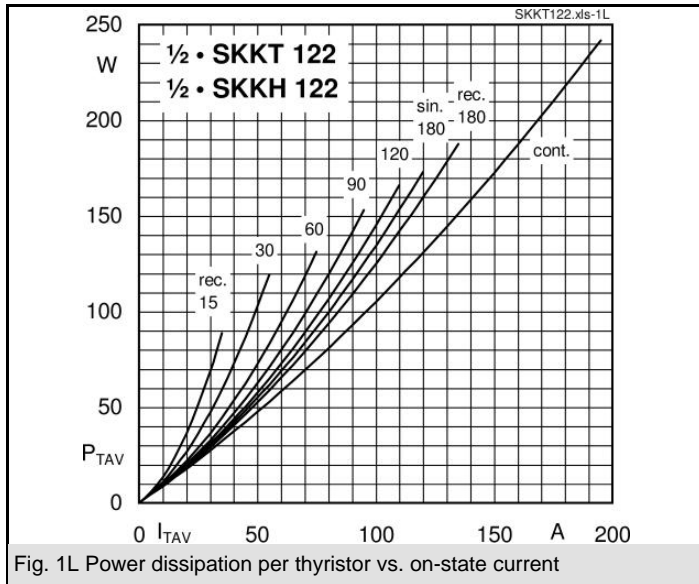


Fig. 1L Power dissipation per thyristor vs. on-state current

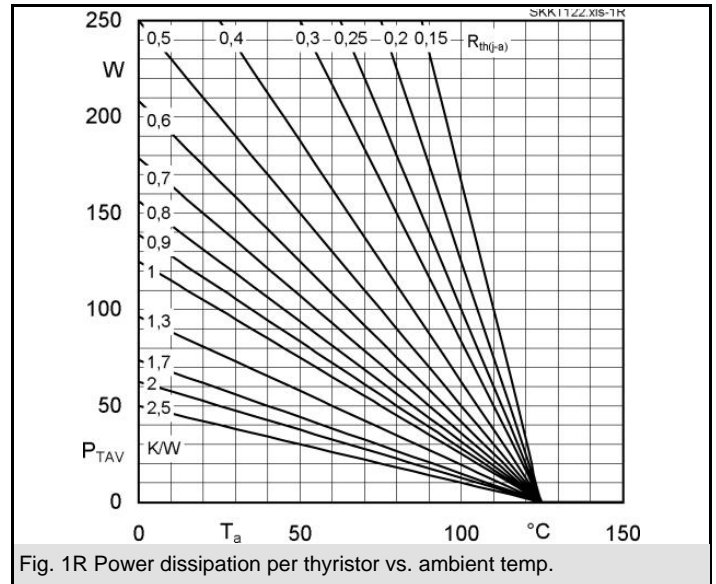


Fig. 1R Power dissipation per thyristor vs. ambient temp.

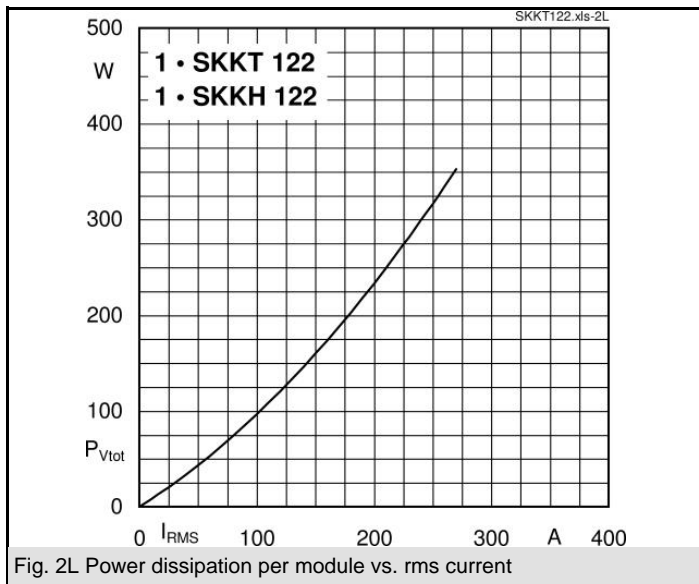


Fig. 2L Power dissipation per module vs. rms current

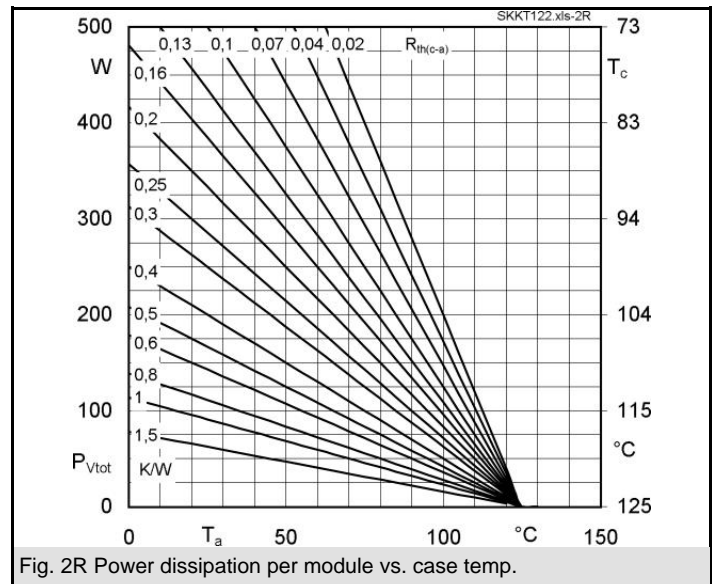


Fig. 2R Power dissipation per module vs. case temp.

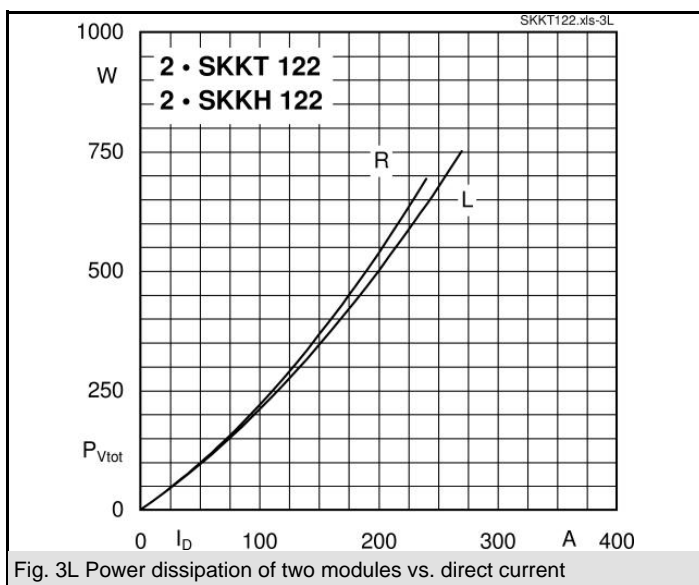


Fig. 3L Power dissipation of two modules vs. direct current

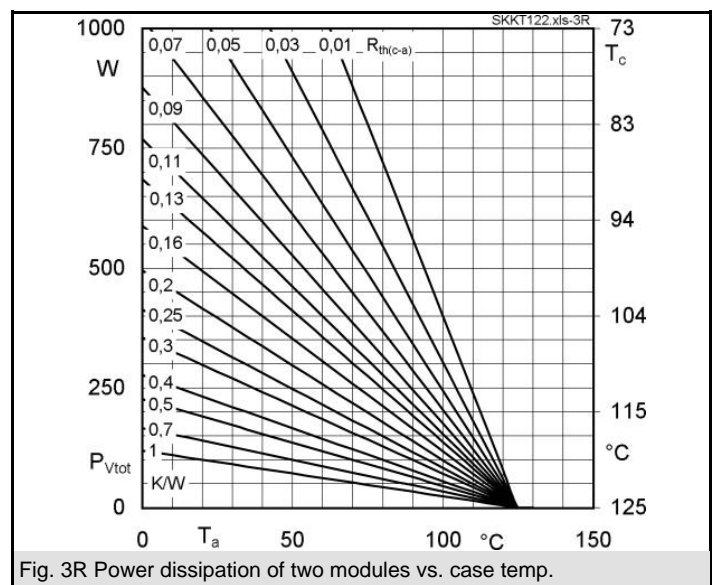
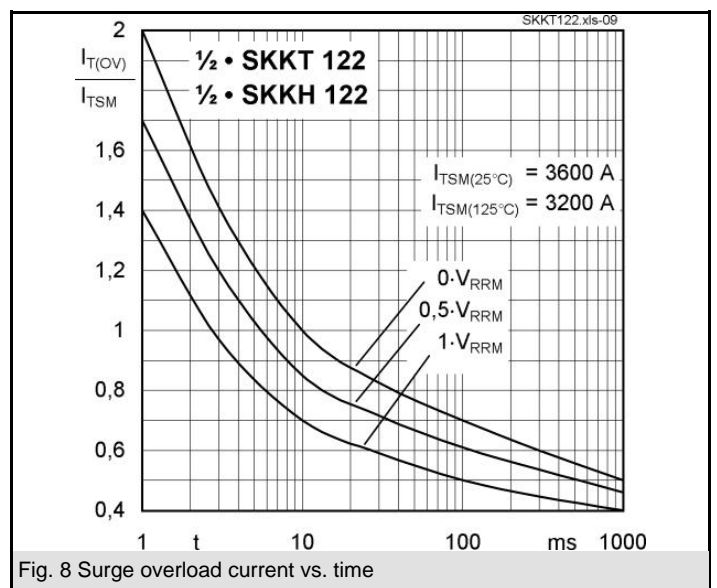
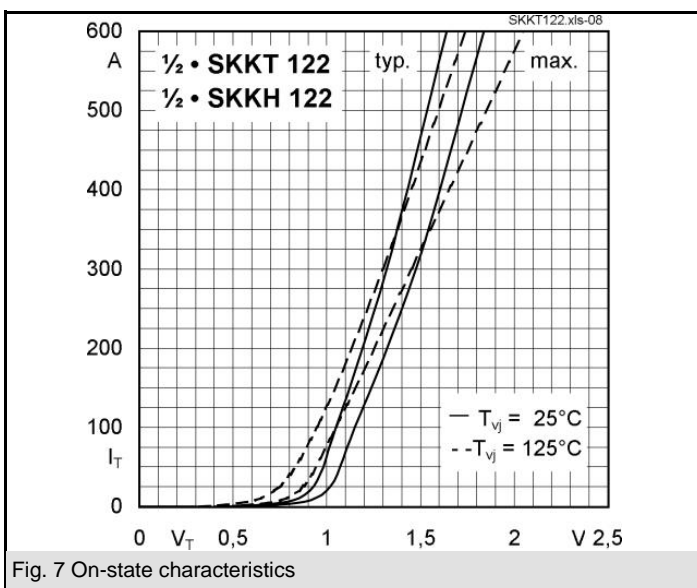
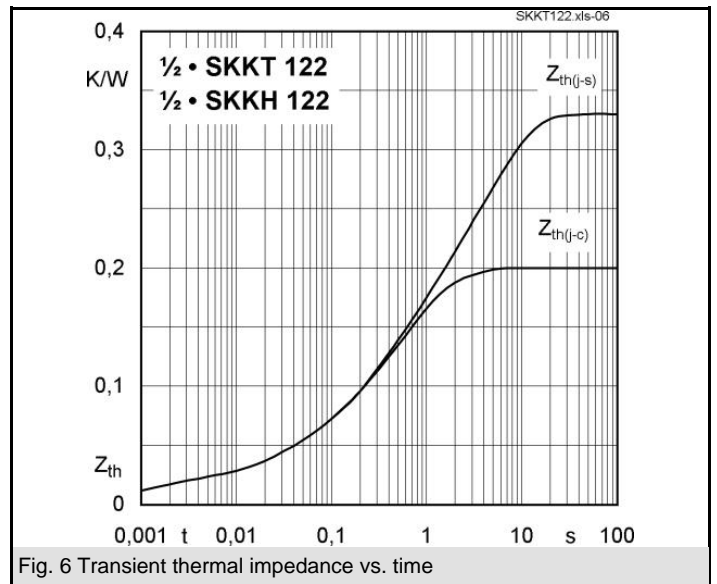
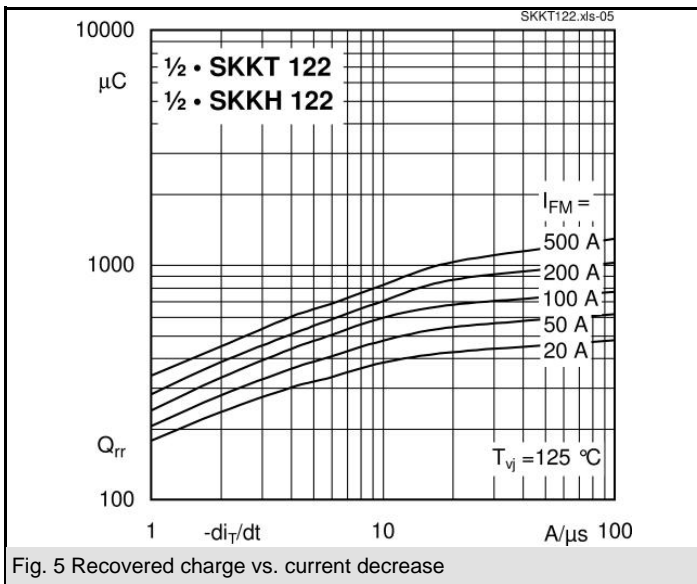
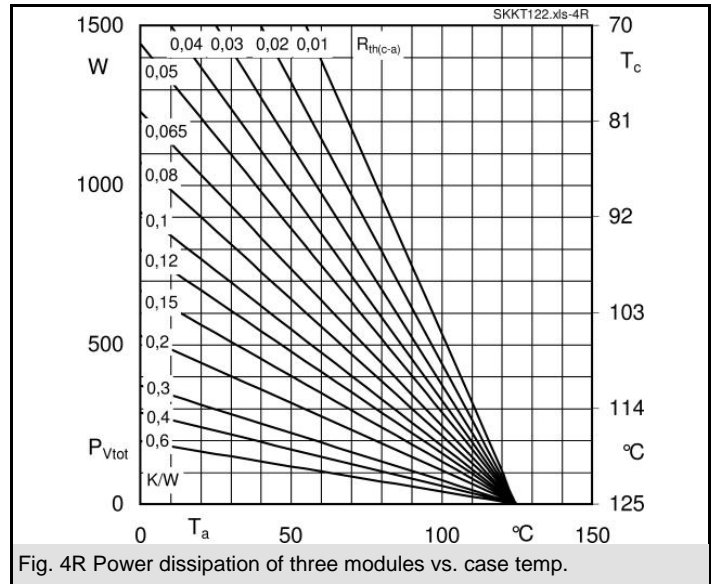
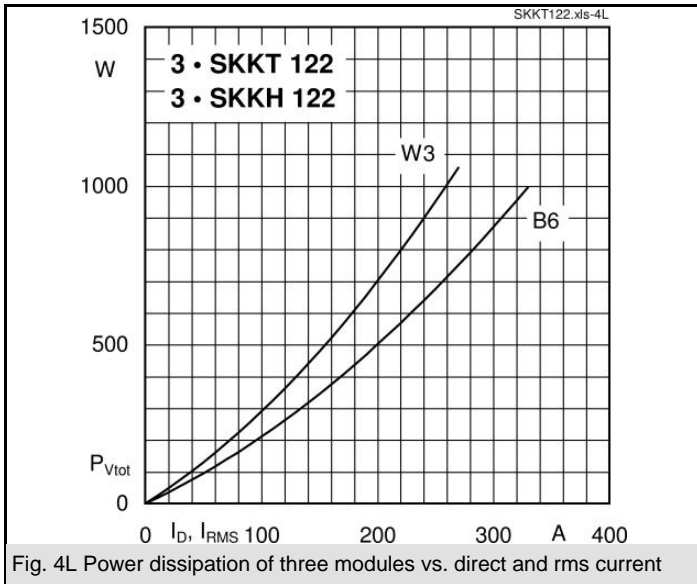
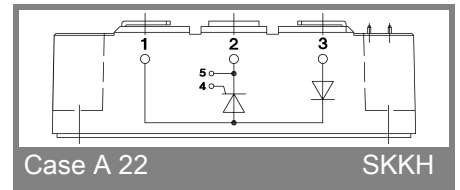
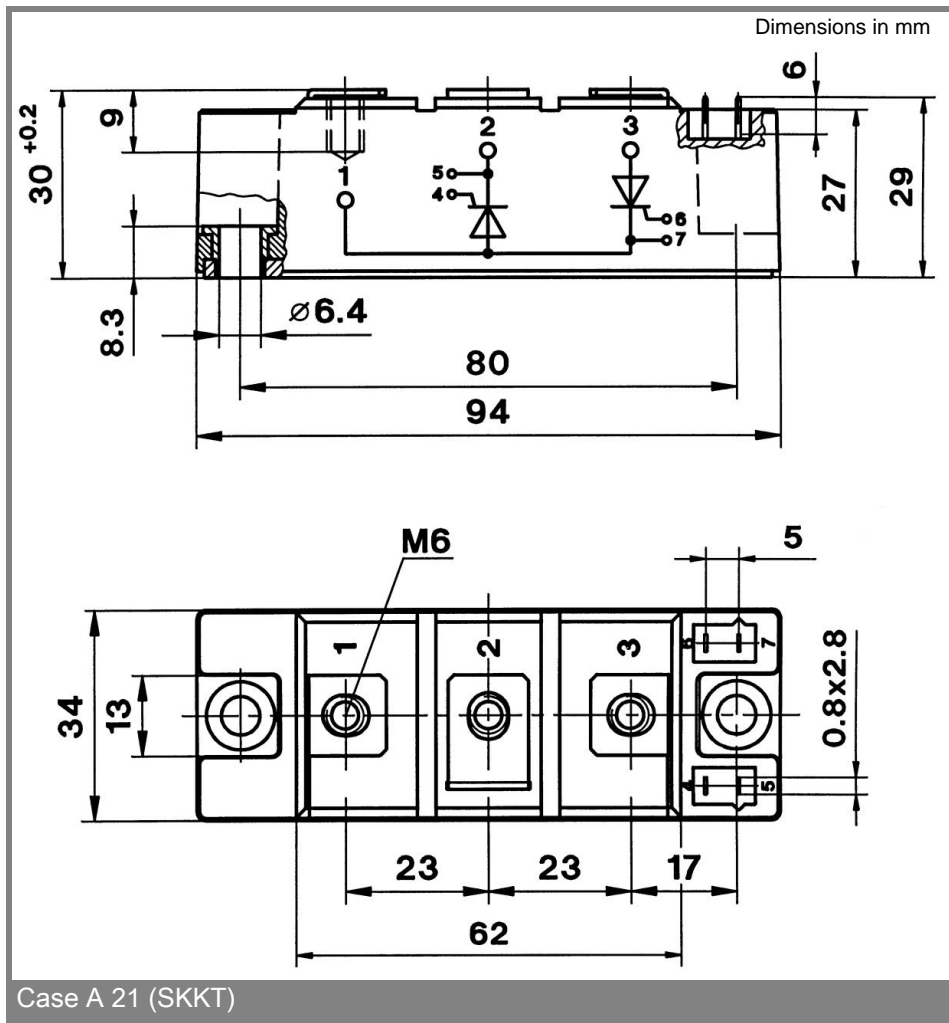


Fig. 3R Power dissipation of two modules vs. case temp.

# SKKT 122, SKKH 122



# SKKT 122, SKKH 122



This technical information specifies semiconductor devices but promises no characteristics. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.