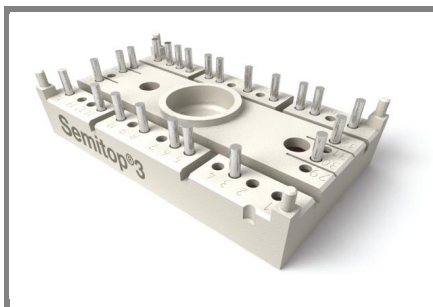


# SK 80 DTA



SEMITOP® 3

## 3-phase bridge rectifier+ series thyristor

### SK 80 DTA

Preliminary Data

### Features

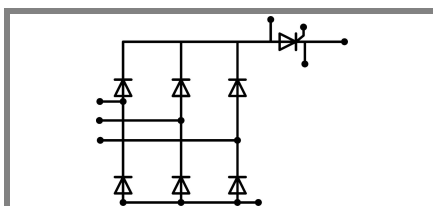
- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DBC)
- Glass passivated thyristor chips
- Reverse voltage up to 1600 V
- High surge currents

### Typical Applications

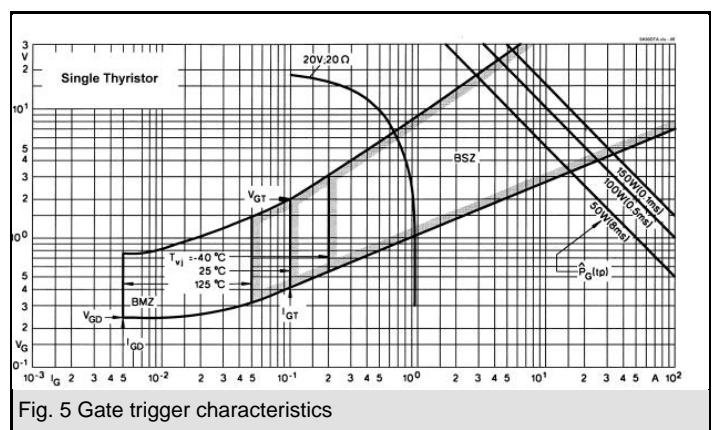
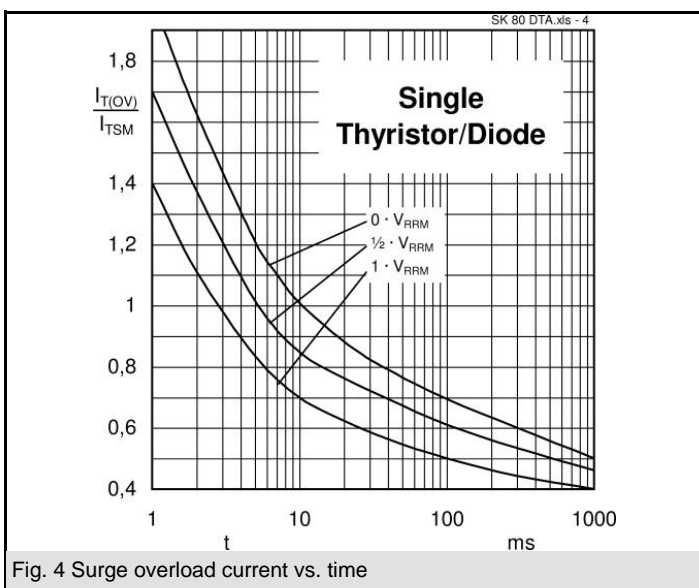
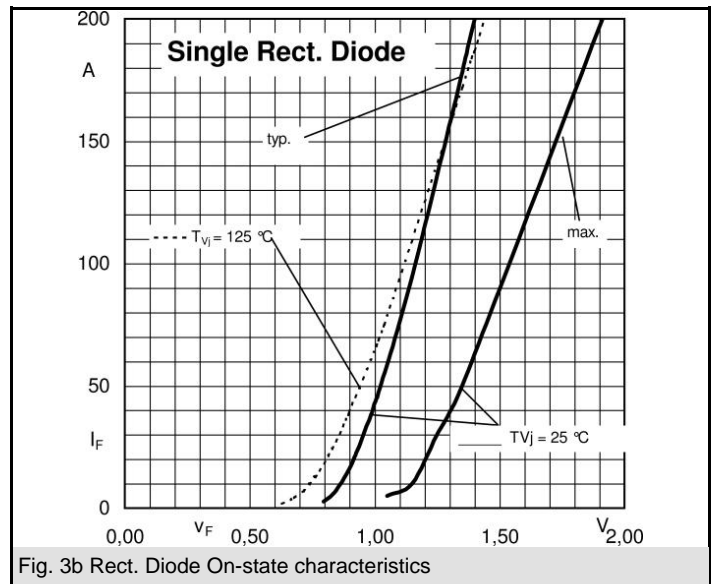
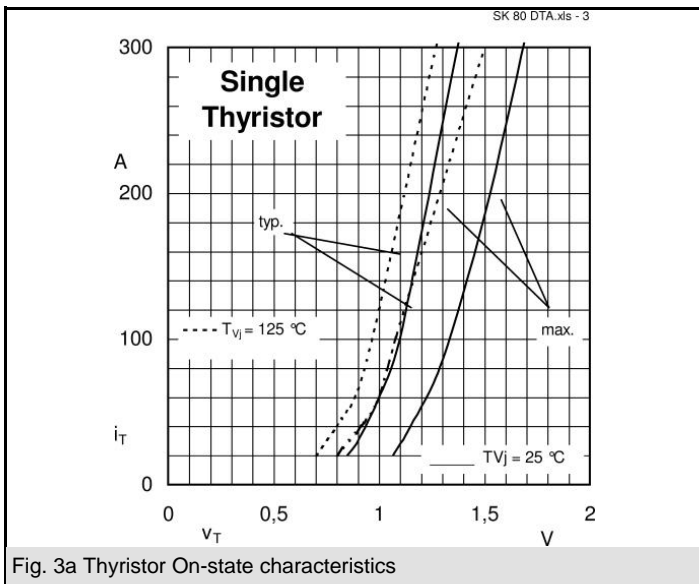
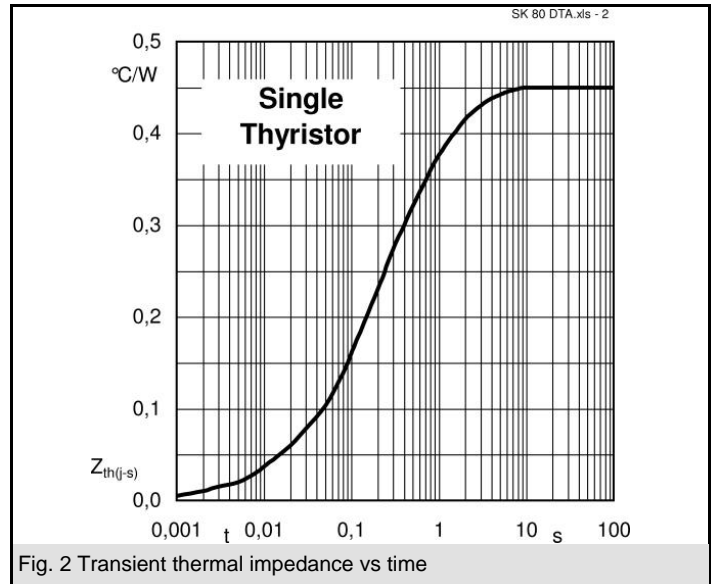
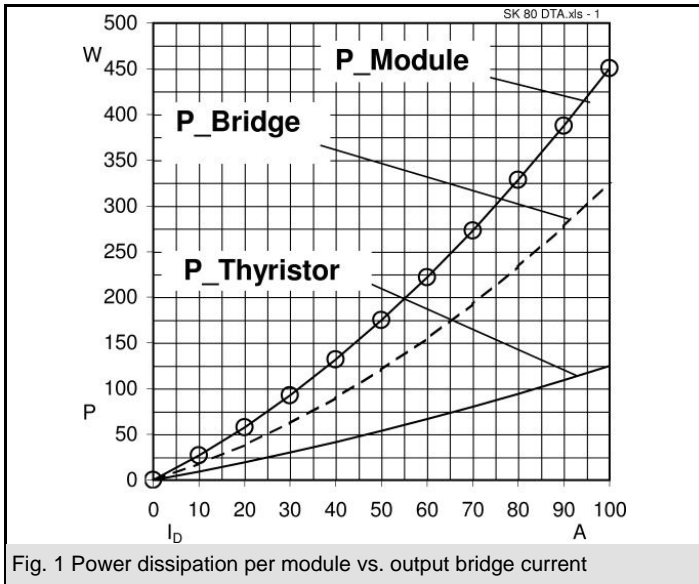
- Soft starters
- Light control
- Temperature control

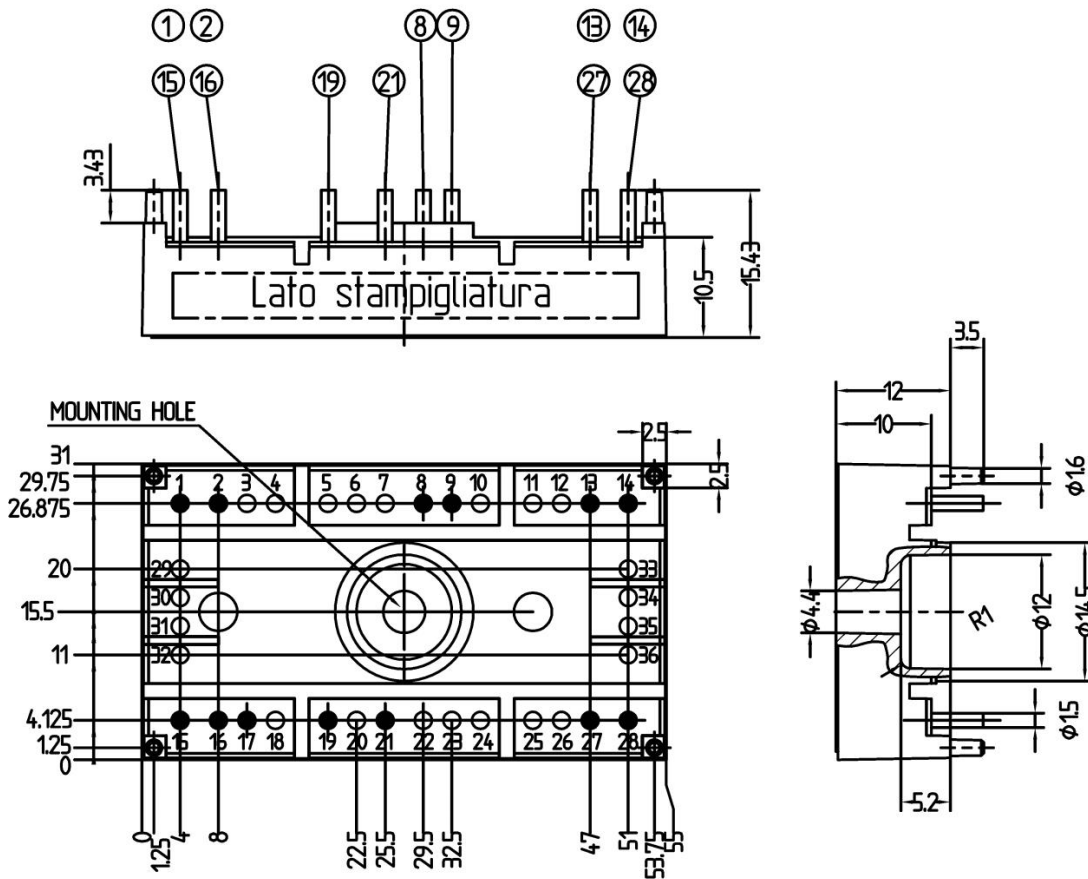
$V_{RSM}$ V	$V_{RRM}, V_{DRM}$ V	$I_D = 81$ A ( $T_s = 80$ °C)
900	800	SK 80 DTA 08
1300	1200	SK 80 DTA 12
1700	1600	SK 80 DTA 16

Characteristics		$T_s = 25$ °C unless otherwise specified	
Symbol	Conditions	Values	Units
$I_D$	$T_s = 80$ °C; Ind. load	81	A
$I_{TAV}$	sin. 180°; $T_s = 25$ (80) °C per thyristor	113 (65)	A
$I_{FAV}$	sin. 180°; $T_s = 25$ (80) °C per diode	65 (45)	A
$I_{TSM}/I_{FSM}$	$T_{vj} = 25$ (125) °C; 10 ms	2000 (1800)	A
$I^2t$	$T_{vj} = 25$ (125) °C; 8,3 ... 10 ms	20000 (16200)	A <sup>2</sup> s
$T_{stg}$		-40,...+125	°C
$T_{solder}$	terminals, 10 s	260	°C
<b>Thyristor</b>			
$(dv/dt)_{cr}$	$T_{vj} = 125$ °C	1000	V/μs
$(di/dt)_{cr}$	$T_{vj} = 125$ °C; $f = f$ Hz	50	A/μs
$t_q$	$T_{vj} = 125$ °C; typ.	120	μs
$I_H$	$T_{vj} = 25$ °C; typ. / max.	100 / 200	mA
$I_L$	$T_{vj} = 25$ °C; $R_G = 33$ Ω; typ. / max.	200 / 500	mA
$V_T$	$T_{vj} = 25$ °C; ( $I_T = 300$ A); max.	1,85	V
$V_{T(TO)}$	$T_{vj} = 125$ °C	max. 0,9	V
$r_T$	$T_{vj} = 125$ °C	max. 3,5	mΩ
$I_{DD}; I_{RD}$	$T_{vj} = 125$ °C; $V_{DD} = V_{DRM}; V_{RD} = V_{RRM}$	max. 20	mA
$R_{th(j-s)}$	Cont. per thyristor	0,45	K/W
$T_{vj}$		- 40 ... + 125	°C
$V_{GT}$	$T_{vj} = 25$ °C; d.c.	2	V
$I_{GT}$	$T_{vj} = 25$ °C; d.c.	100	mA
$V_{GD}$	$T_{vj} = 125$ °C; d.c.	0,25	V
$I_{GD}$	$T_{vj} = 125$ °C; d.c.	5	mA
<b>Diode</b>			
$V_F$	$T_{vj} = 25$ °C; ( $I_F = 75$ A); max.	1,45	V
$V_{T(TO)}$	$T_{vj} = 125$ °C	0,8	V
$r_T$	$T_{vj} = 125$ °C	4,5	mΩ
$I_{RD}$	$T_{vj} = 125$ °C; $V_{RD} = V_{RRM}$	2	mA
$R_{th(j-s)}$	per diode	1	K/W
$T_{vj}$		-40...+150	°C
<b>Mechanical data</b>			
$V_{isol}$	a. c. 50 Hz; r.m.s.; 1 s / 1 min	3000 (2500)	V
$M_1$	mounting torque	2,5	Nm
w		30	g
Case	SEMITOP® 3	T 45	



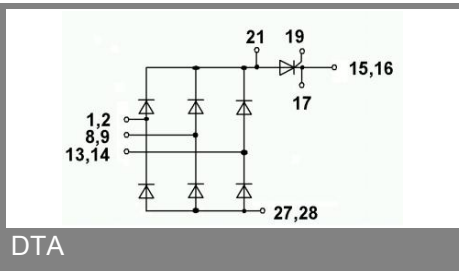
DTA





SUGGESTED HOLEDIAMETER FOR THE SOLDER PINS AND THE MOUNTING PINS IN THE PCB: 2 mm

Case T45 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins: 2mm)



This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

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