

SEMIPONT™ 5

Bridge Rectifier

SKDT 145

Target Data

Features

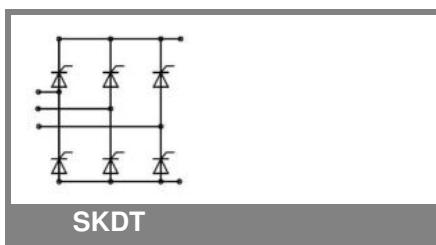
- Compact design
- Two screws mounting
- Heat transfer and isolation through direct copper board (low R_{th})
- Low resistance in steady-state and high reliability
- High surge currents
- Glass passivated thyristor chips
- Up to 1600 V reverse voltage
- UL -recognized, file no. E 63 532

Typical Applications*

- DC and AC drives
- Controlled field rectifier for DC motors
- Controlled battery charger

V_{RSM}	V_{RRM}, V_{DRM}	$I_D = 140 \text{ A (full conduction)}$ ($T_s = 80^\circ\text{C}$)
V	V	$SKDT 145/12$
1300	1200	$SKDT 145/16$
1700	1600	

Symbol	Conditions	Values	Units
I_D	$T_s = 80^\circ\text{C}$	140	A
I_{TSM}	$T_{vj} = 25^\circ\text{C}; 10 \text{ ms}$ $T_{vj} = 125^\circ\text{C}; 10 \text{ ms}$	1350 1250	A A
i^2t	$T_{vj} = 25^\circ\text{C}; 8,3 \dots 10 \text{ ms}$ $T_{vj} = 125^\circ\text{C}; 8,3 \dots 10 \text{ ms}$	9000 7800	A^2s A^2s
V_T	$T_{vj} = 25^\circ\text{C}; I_T = 150\text{A}$	max. 1,6	V
$V_{T(TO)}$	$T_{vj} = 125^\circ\text{C};$	max. 0,9	V
r_T	$T_{vj} = 125^\circ\text{C}$	max. 5	$\text{m}\Omega$
$I_{DD}; I_{RD}$	$T_{vj} = 125^\circ\text{C}; V_{DD} = V_{DRM}; V_{RD} = V_{RRM}$	max. 20	mA
t_{gd}	$T_{vj} = 0^\circ\text{C}; I_G = A; di_G/dt = A/\mu\text{s}$		μs
t_{gr}	$V_D = \cdot V_{DRM}$		μs
$(dv/dt)_{cr}$	$T_{vj} = 125^\circ\text{C}$	max. 500	$\text{V}/\mu\text{s}$
$(di/dt)_{cr}$	$T_{vj} = 125^\circ\text{C}; f = 50 \dots 60 \text{ Hz}$	max. 50	$\text{A}/\mu\text{s}$
t_q	$T_{vj} = 125^\circ\text{C}; \text{typ.}$	150	μs
I_H	$T_{vj} = 25^\circ\text{C}; \text{typ. / max.}$	- / 250	mA
I_L	$T_{vj} = 25^\circ\text{C}; R_G = 33 \Omega$	- / 600	mA
V_{GT}	$T_{vj} = 25^\circ\text{C}; \text{d.c.}$	min. 3	V
I_{GT}	$T_{vj} = 25^\circ\text{C}; \text{d.c.}$	min. 150	mA
V_{GD}	$T_{vj} = 125^\circ\text{C}; \text{d.c.}$	max. 0,25	V
I_{GD}	$T_{vj} = 125^\circ\text{C}; \text{d.c.}$	max. 6	mA
$R_{th(j-s)}$	per thyristor	0,6	K/W
T_{vj}		- 40 ... + 125	$^\circ\text{C}$
T_{stg}		- 40 ... + 125	$^\circ\text{C}$
T_{solder}	terminals	260	$^\circ\text{C}$
V_{isol}	a. c. 50 Hz; r.m.s.; 1 s / 1 min. to heatsink	3600 (3000) 2,5	V Nm
M_s			Nm
M_t		75	Nm
m	approx.		g
Case		G 58	



SKDT

SKDT 145

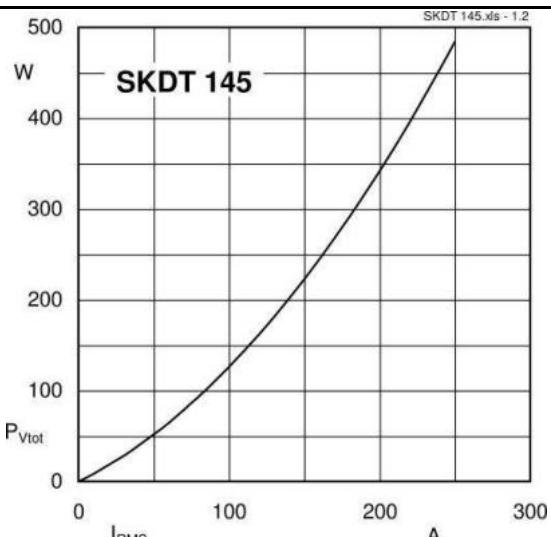


Fig. 1 Power dissipation vs. output current

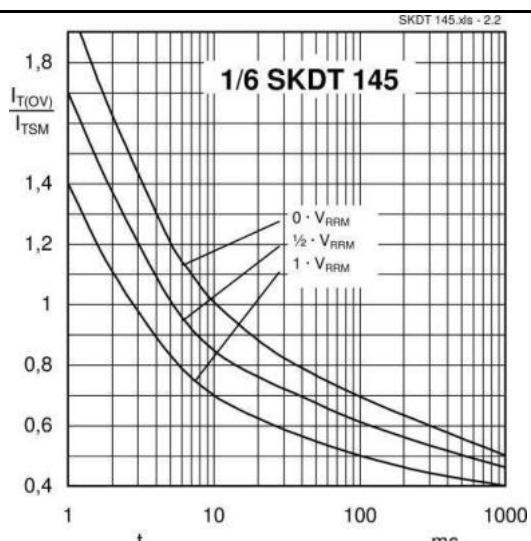


Fig. 2 Surge overload characteristics vs. time

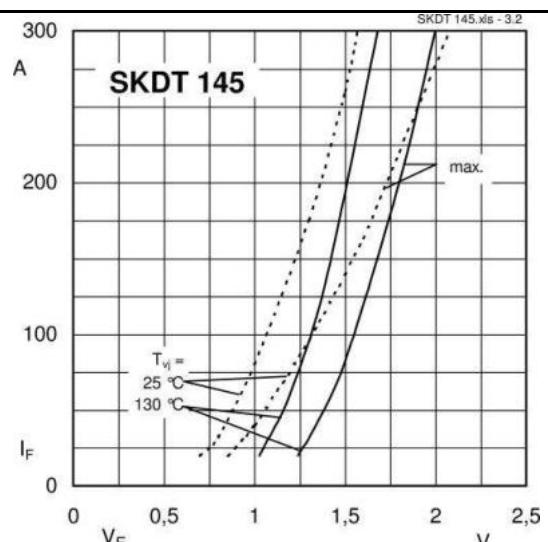


Fig. 3 On-state characteristics

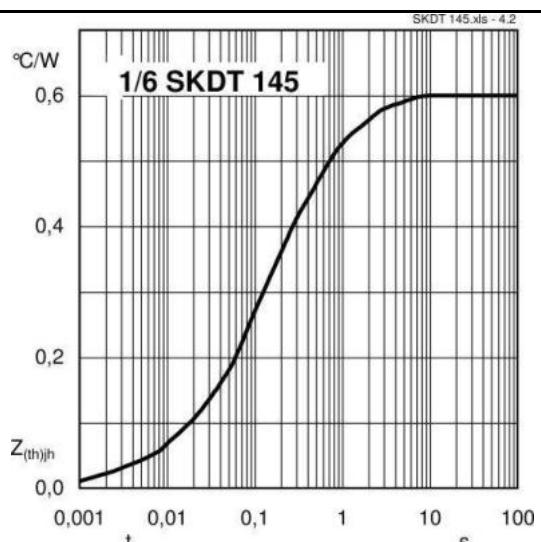


Fig. 4 Transient thermal impedance vs. time

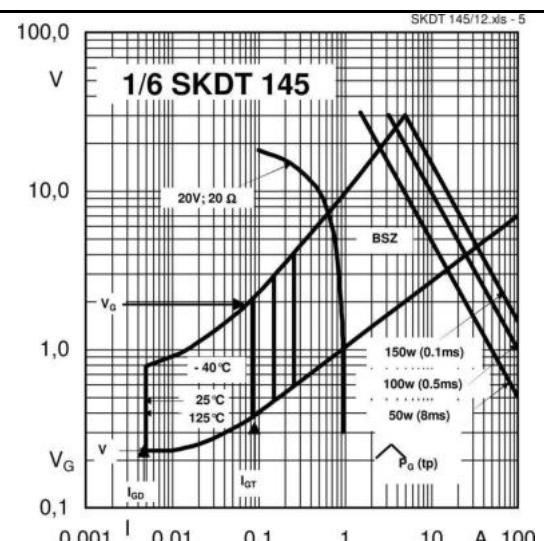
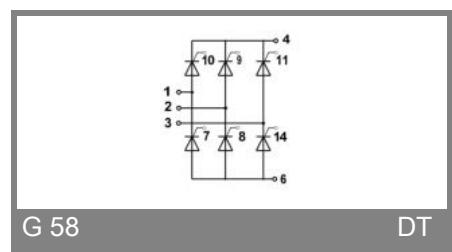
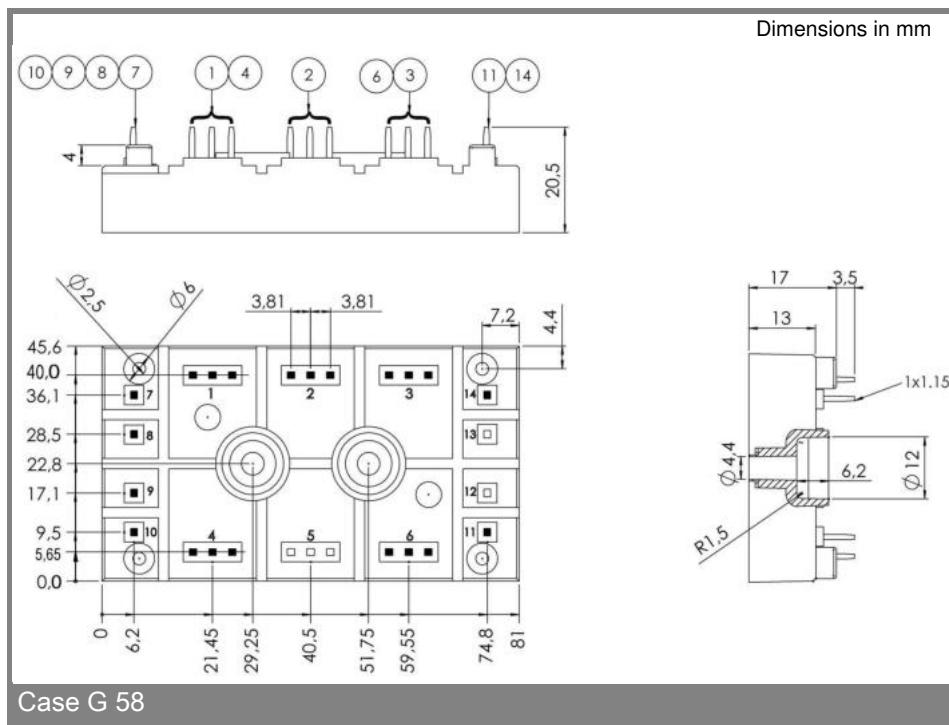


Fig. 5 Gate trigger characteristic



Case G 58

* 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.