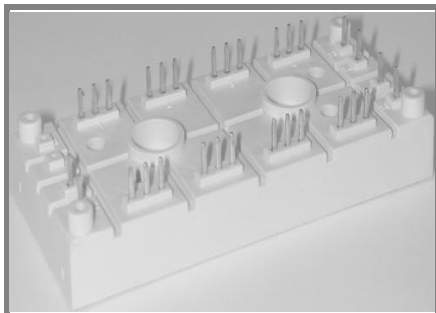


# SKDH 116/..-L75



SEMIPONT™ 6

## 3-Phase Bridge Rectifier + IGBT braking chopper

SKDH 116/..-L75

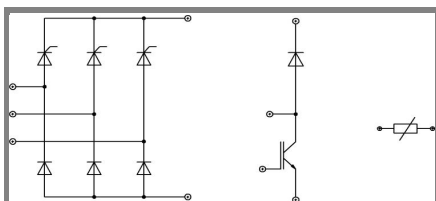
Preliminary Data

### Features

- Compact design
- Two screws mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- High surge currents
- Up to 1600V reverse voltage
- UL recognized, file no. E 63 532

### Typical Applications

- DC drives
- Controlled filed rectifiers for DC motors
- Controlled battery charger



DH

$V_{RSM}$ V	$V_{RRM}, V_{DRM}$ V	$I_D = 110$ A (maximum value for continuous operation) ( $T_s = 80$ °C)
1300	1200	SKDH 116/12-L75
1700	1600	SKDH 116/16-L75

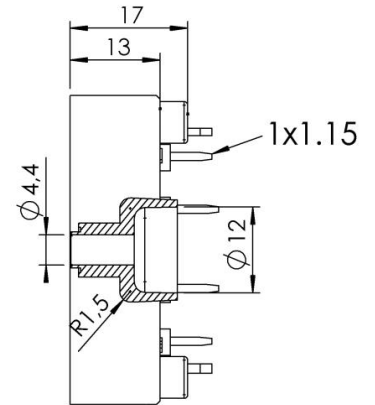
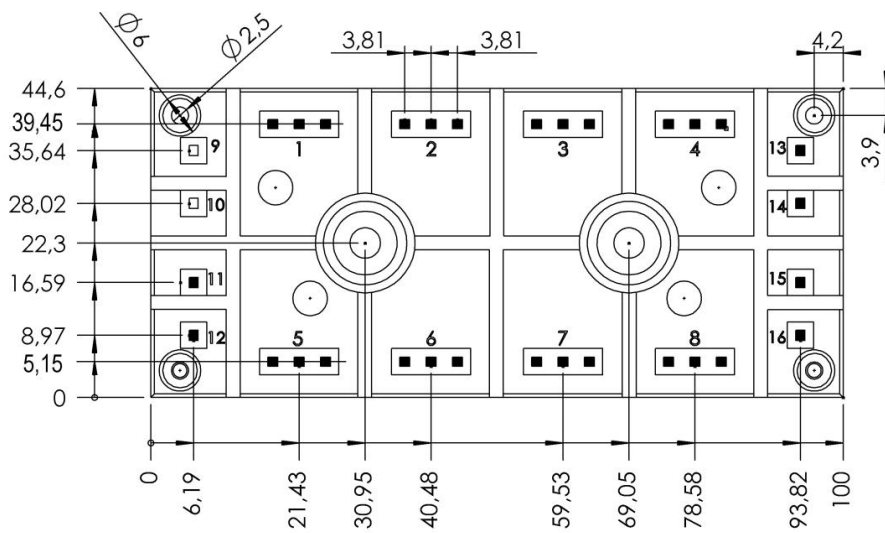
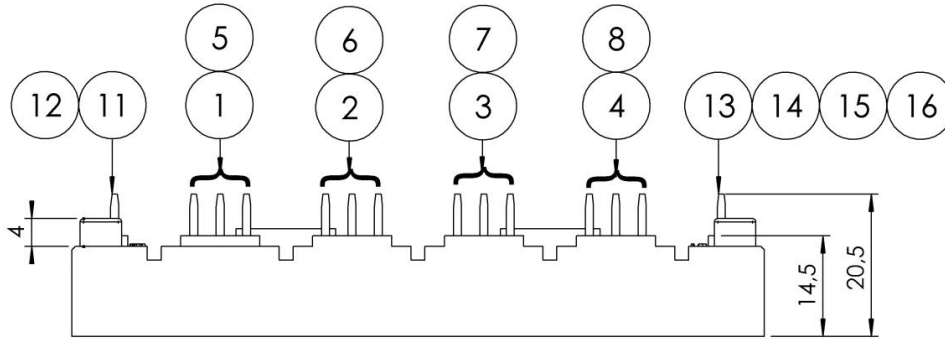
Absolute Maximum Ratings		$T_s = 25$ °C, unless otherwise specified	
Symbol	Conditions	Values	Units
<b>Bridge - Rectifier</b>			
$I_D$	$T_s = 85$ °C; inductive load	110	A
$I_{FSM}/I_{TSM}$	$t_p = 10$ ms; sin 180 ; $T_{jmax}$	950	A
$i^2t$	$t_p = 10$ ms; sin 180 ; $T_{jmax}$	4500	A <sup>2</sup> s
<b>IGBT - Chopper</b>			
$V_{CES}/V_{GES}$		1200 / 20	V
$I_C$	$T_s = 25$ (70) °C	100 (75)	A
$I_{CM}$	$t_p = 1$ ms; $T_s = 25$ (70) °C	200 (150)	A
<b>Freewheeling - CAL Diode</b>			
$V_{RRM}$		1200	V
$I_F$	$T_s = 25$ (70) °C	90 (70)	A
$I_{FM}$	$t_p = 1$ ms; $T_s = 25$ (70) °C	180 (140)	A
$T_{vj}$	Diode & IGBT (Thyristor)	- 40 ... + 150 (-40...+ 125)	°C
$T_{stg}$		- 40 ... + 125	°C
$T_{solder}$	terminals, 10 s	260	°C
$V_{isol}$	a.c. (50) Hz, RMS 1 min. / 1 s	3000 / 3600	V

Characteristics		$T_s = 25$ °C, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
<b>Diode - Rectifier</b>					
$V_{TO} / r_t$	$T_j = 125$ °C		0,8 / 7		V / mΩ
$R_{th(j-s)}$	per diode			1	K/W
<b>Thyristor - Rectifier</b>					
$V_{F(TO)} / r_t$	$T_j = 125$ °C		1,1 / 6		V / mΩ
$R_{th(j-s)}$	per Thyristor			0,84	K/W
$I_{GD}$	$T_j = 125$ °C; d.c.		5		mA
$V_{GT} / I_{GT}$	$T_j = 25$ °C			3 / 150	V / mA
$I_H / I_L$	$T_j = 25$ °C		250 / 600		mA
$(dv/dt)_{cr}$	$T_j = 125$ °C	500			V/μs
$(di/dt)_{cr}$	$T_j = 125$ °C			125	A/μs
<b>IGBT - Chopper</b>					
$V_{CE(sat)}$	$I_C = 75$ A, $T_j = 25$ °C; $V_{GE} = 15$ V		2,35		V
$R_{th(j-s)}$	per IGBT			0,4	K/W
$t_{d(on)} / t_r$	valid for all values: $V_{CC} = 600$ V; $V_{GE} = 15$ V;		113,8 / 94,4		ns
$t_{d(off)} / t_f$	$I_C = 90$ A; $T_j = 125$ °C;		845,4 / 94,4		ns
$E_{on} + E_{off}$	$T_j = 125$ °C; $R_G = 16$ Ω; inductive load		18,3		mJ
<b>CAL - Diode - Freewheeling</b>					
$V_{T(TO)} / r_t$	$T_j = 125$ °C		1 / 8	1,2 / 11	V / mΩ
$R_{th(j-s)}$	per diode			0,6	K/W
$I_{RRM}$	valid for all values:		65		A
$Q_{rr}$	$I_F = 100$ A; $V_R = - -600$ V; $di_F/dt = - -1000$ A/μs		15		μC
$E_{off}$	$V_{GE} = 0$ V; $T_j = 125$ °C				mJ
<b>Temperature Sensor</b>					
$R_{TS}$	$T = 25$ (100) °C;		1000 (1670)		Ω
<b>Mechanical data</b>					
$M_S$	mounting Torque		2,55	3,45	Nm

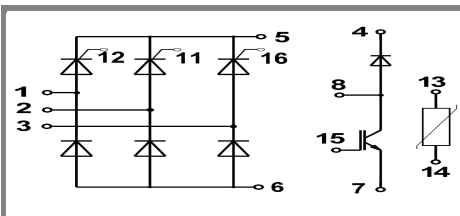
# SKDH 116/..-L75

UL recognized  
File n&#176; E63 532

Dimensions in mm



Case G 59



Case G 59

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

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