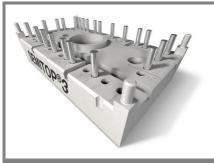
## **SK 9 DGD 065 ET**



SEMITOP<sup>®</sup> 3

3-phase bridge rectifier + 3-phase bridge inverter

### SK 9 DGD 065 ET

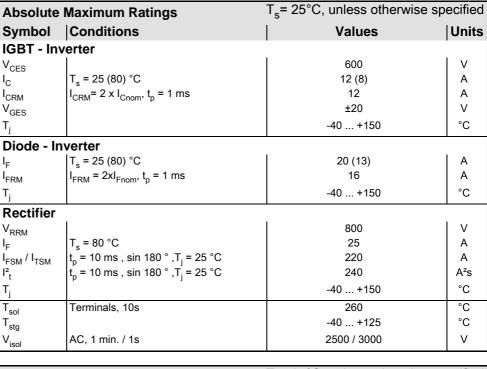
**Preliminary Data** 

#### **Features**

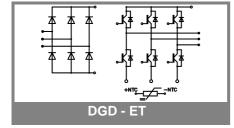
- Compact design
- · One screw mounting
- Heat transfer and isolation through direct copper bonded alumium oxide ceramic (DCB)
- Ultrafast NPT technology IGBT
- CAL Technology FWD
- Integrated NTC temperature sensor

### **Typical Applications\***

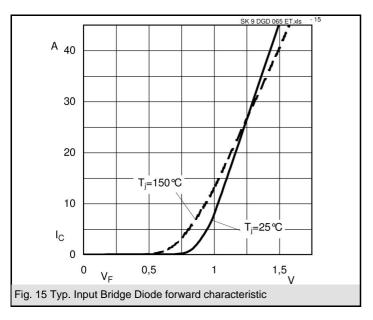
Inverter

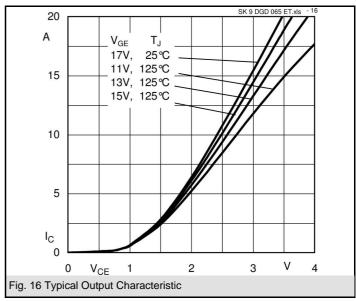


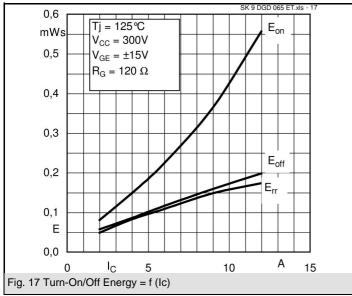
Characteristics		T <sub>s</sub> = 25°C, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT - Inverter					
$V_{CEsat}$	$I_C = 6 \text{ A}, T_j = 25 (125) ^{\circ}\text{C}$		2 (2,2)		V
$V_{GE(th)}$	$V_{GE} = V_{CE}$ , $I_C = 0.5 \text{ mA}$	3	4	5	V
$V_{CE(TO)}$	T <sub>j</sub> = 25 °C (125) °C		1,2 (1,1)		V
r <sub>T</sub>	T <sub>j</sub> = 25 °C (125) °C		133 (183)		mΩ
C <sub>ies</sub>	$V_{CE} = V_{GE} = 0 \text{ V, f} = 1 \text{ MHz}$		0,35		nF
C <sub>oes</sub>	$V_{CE} = V_{GE} = 0 \text{ V, f} = 1 \text{ MHz}$		0,4		nF
C <sub>res</sub>	$V_{CE} = V_{GE} = 0 \text{ V, f} = 1 \text{ MHz}$		0,25		nF
$R_{th(j-s)}$	per IGBT			2,6	K/W
$t_{d(on)}$	under following conditions		20		ns
t <sub>r</sub>	$V_{CC} = 300 \text{ V}, V_{GE} = \pm 15 \text{ V}$		25		ns
t <sub>d(off)</sub>	$I_C = 6 \text{ A}, T_j = 125 ^{\circ}\text{C}$		145		ns
t <sub>f</sub>	$R_{Gon} = R_{Goff} = 120 \Omega$		25		ns
E <sub>on</sub>	inductive load		0,22		mJ
E <sub>off</sub>			0,12		mJ
Diode - Inverter					
$V_F = V_{EC}$	I <sub>F</sub> = 8 A, T <sub>i</sub> = 25(125) °C		1,35		V
$V_{(TO)}$	T <sub>j</sub> = 25 °C (125) °C		(8,0)		V
$r_T$	$T_{j} = 25  ^{\circ}\text{C}  (125)  ^{\circ}\text{C}$		(44)		mΩ
$R_{th(j-s)}$	per diode			2,7	K/W
I <sub>RRM</sub>	under following conditions		4,2		Α
$Q_{rr}$	I <sub>F</sub> = 8 A, V <sub>R</sub> = 300 V		0,65		μC
E <sub>rr</sub>	$V_{GE} = 0 \text{ V}, T_j = 125 \text{ °C}$				mJ
	di <sub>F/dt</sub> = -120 A/µs				
Diode rectifier					
$V_{F}$	I <sub>F</sub> = 20 A, T <sub>j</sub> = 25() °C		1,1		V
V <sub>(TO)</sub>	T <sub>i</sub> = 150 °C		0,85		V
r <sub>T</sub>	T <sub>i</sub> = 150 °C		15		mΩ
$R_{th(j-s)}$	per diode			2,15	K/W
Temperatur sensor					
R <sub>ts</sub>	5 %, T <sub>r</sub> = 25 (100 ) °C		5000(493)		Ω
Mechanical data					
w			31		g
$M_s$	Mounting torque	2,3		2,5	Nm

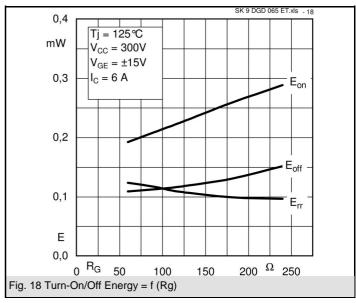


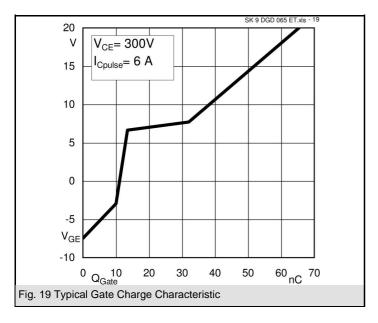
# SK 9 DGD 065 ET



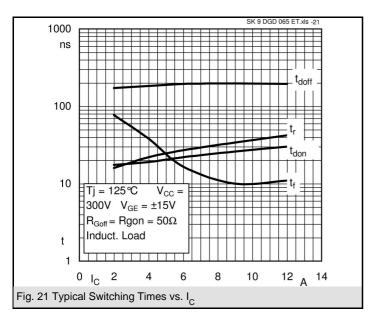


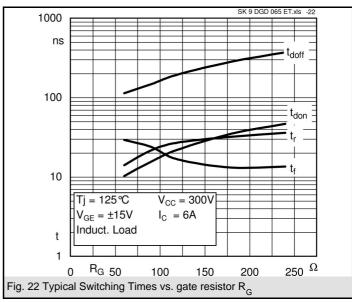


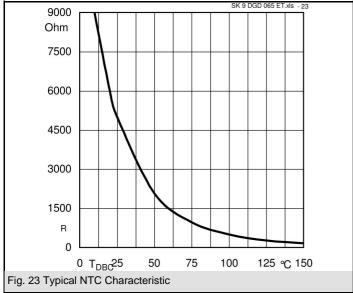


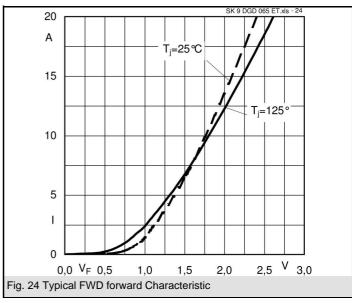


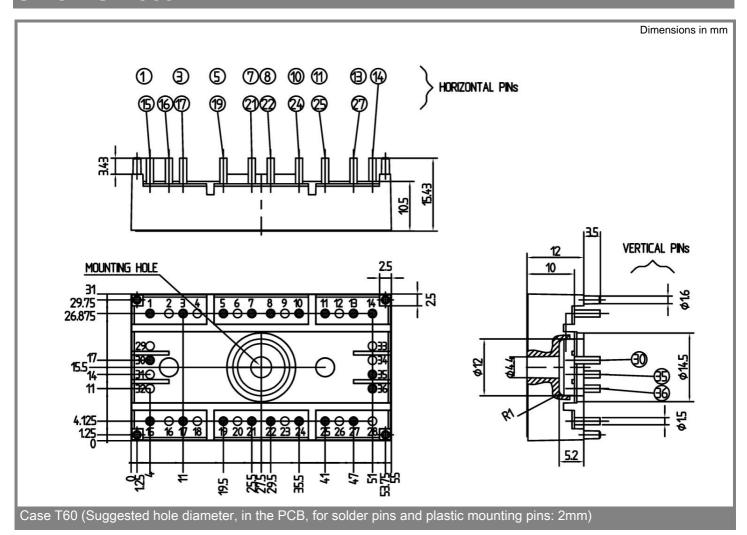
# **SK 9 DGD 065 ET**

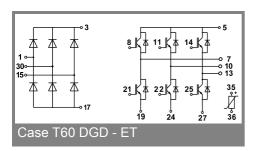












This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

\* 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.

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