

SKM 75 GB 176 DN

Absolute Maximum Ratings		$T_{case} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified	
Symbol	Conditions	Values	Units
IGBT			
V_{CES}		1700	V
I_C	$T_{case} = 25\text{ (80) }^{\circ}\text{C}$	80 (55)	A
I_{CRM}	$T_{case} = 25\text{ (80) }^{\circ}\text{C}$, $t_p = 1\text{ ms}$	160 (110)	A
V_{GES}		± 20	V
T_{vj} , (T_{stg})	$T_{OPERATION} \leq T_{stg}$	$-40 \dots +150\text{ (125)}$	$^{\circ}\text{C}$
V_{isol}	AC, 1 min.	4000	V
Inverse Diode			
$I_{FAV} = -I_C$	$T_{case} = 25\text{ (80) }^{\circ}\text{C}$	80 (55)	A
I_{FRM}	$T_{case} = 25\text{ (80) }^{\circ}\text{C}$, $t_p < 1\text{ ms}$	160 (110)	A
I_{FSM}	$t_p = 10\text{ ms}$; sin.; $T_j = 150\text{ }^{\circ}\text{C}$	550	A
Freewheeling Diode			
$I_{FAV} = -I_C$	$T_{case} = 25\text{ (80) }^{\circ}\text{C}$		A
I_{FRM}	$T_{case} = 25\text{ (80) }^{\circ}\text{C}$, $t_p < 1\text{ ms}$		A
I_{FSM}	$t_p = 10\text{ ms}$; sin.; $T_j = 150\text{ }^{\circ}\text{C}$		A

Characteristics					
T _{case} = 25 °C, unless otherwise specified					
Symbol	Conditions	min.	typ.	max.	Units
IGBT					
V _{GE(TO)}	V _{GE} = V _{CE} , I _C = 2 mA	5,2	5,8	6,4	V
I _{CES}	V _{GE} = 0, V _{CE} = V _{CES} ; T _j = 25 (125) °C			0,4	mA
V _{CE(TO)}	T _j = 25 (125) °C		1,0 (0,9)	1,2 (1,1)	V
r _{CE}	V _{GE} = 15 V, T _j = 25 (125) °C		20 (30)	25	mΩ
V _{CE(sat)}	I _C = 50 A, V _{GE} = 15 V, chip level		2,0 (2,4)	2,45	V
C _{ies}	V _{GE} = 0, V _{CE} = 25 V, f = 1 MHz		4		nF
C _{oes}			0,2		nF
C _{res}			0,15		nF
L _{CE}				25	nH
R _{CC'+EE'}		resistance, terminal-chip 25 (125) °C		0,75 (1)	
t _{d(on)}	under following conditions: V _{CC} = 1200 V, I _C = 50 A,		tbd		ns
t _r	R _{Gon} = R _{Goff} = 24 Ω, T _j = 125 °C,		tbd		ns
t _{d(off)}	V _{GE} ± 15 V		tbd		ns
t _f			tbd		ns
E _{on} (E _{off})			38 (19)		mJ
Inverse Diode under following conditions:					
V _F = V _{EC}	I _F = 50 A; V _{GE} = 0 V; T _j = 25 (125) °C		1,6 (1,6)	1,9	V
V _{T(TO)}	T _j = 25 (125) °C		1,1 (0,9)	1,3 (1,1)	V
r _T	T _j = 25 (125) °C		10 (14)	12	mΩ
I _{RRM}	I _F = 50 A; T _j = 125 °C		tbd		A
Q _{rr}	di/dt =500 A/μs		tbd		μC
E _{rr}	V _{GE} = 0 V		tbd		mJ
FWD under following conditions:					
V _F = V _{EC}	I _F = A; V _{GE} = 0 V; T _j = 25 (125) °C				V
V _{TO}	T _j = 25 (125) °C				V
r _T	T _j = 25 (125) °C				mΩ
I _{RRM}	I _F = A; T _j = 125 °C				A
Q _{rr}	V _{GE} = 0 V				μC
E _{rr}					mJ
Thermal Characteristics					
R _{th(j-c)}	per IGBT			0,4	K/W
R _{th(j-c)D}	per FWD			0,6	K/W
R _{th(j-c)FD}	per Inverse Diode				K/W
R _{th(c-s)}	per module			0,05	K/W
Mechanical Data					
M _s	to heatsink (M6)	3		5	Nm
M _t	for terminals (M5)	2,5		5	Nm
w				160	g

SEMITRANS™ M Trench IGBT Module

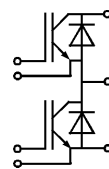
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Target Data



SEMITRANS 2N

low inductance case



GB

Features

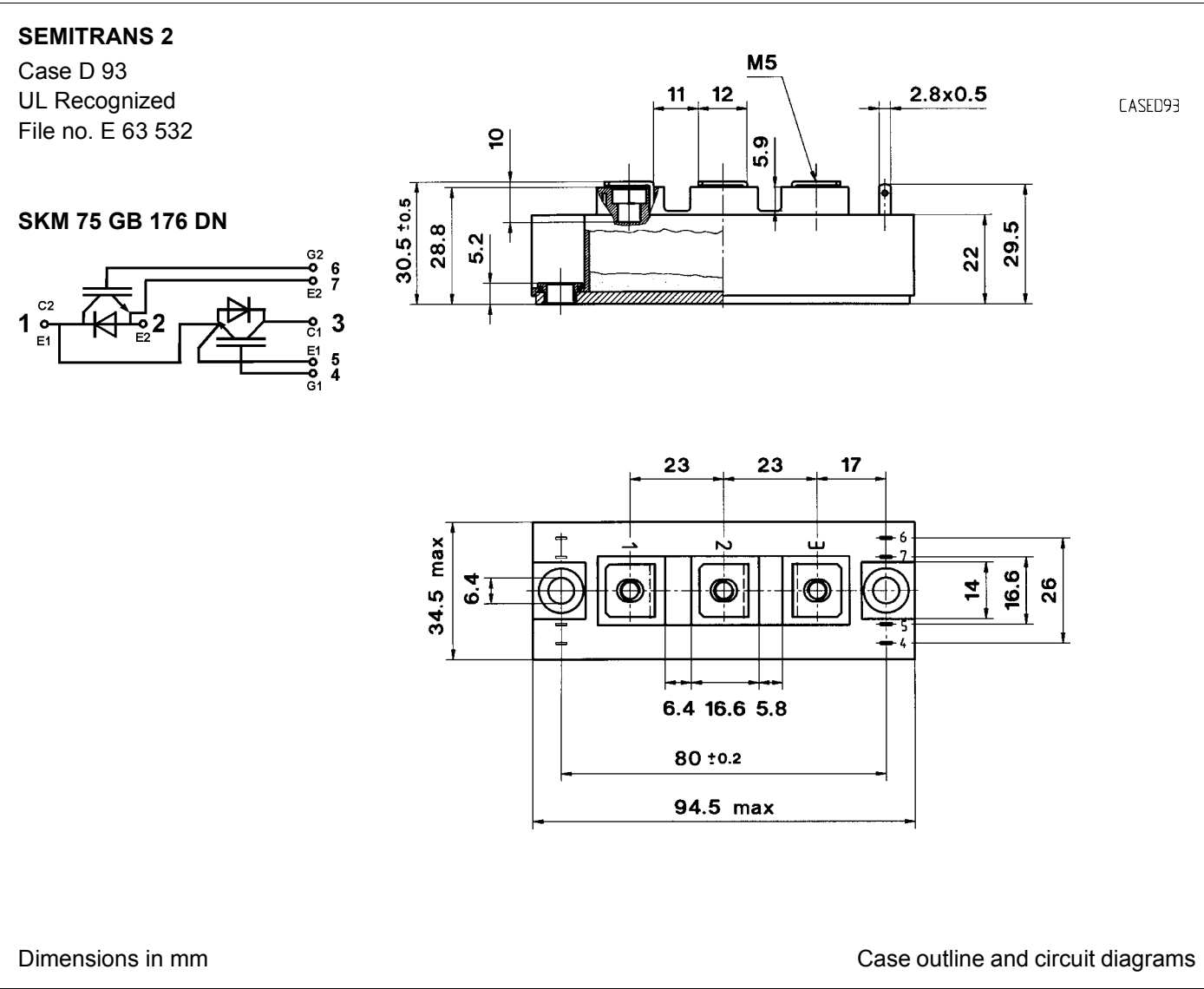
- Homogeneous Si
- Trench = Trench gate technology
- $V_{CE(sat)}$ with positive temperature coefficient
- High short circuit capability, self limiting to $6 \times I_C$

Typical Applications

- AC inverter drives
mains 575 - 750V AC
- Public transport (auxiliary syst.)

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

Packing Unit	8 pcs	SEMIBOX A
Mounting Kit	10 pcs	Ident-No. 33321100



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