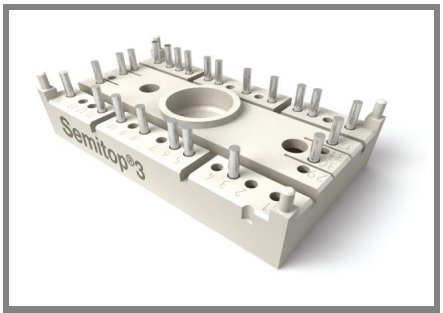
SK40GB067



SEMITOP® 3

IGBT Module

SK40GB067

SK40GAL067

SK40GAR067

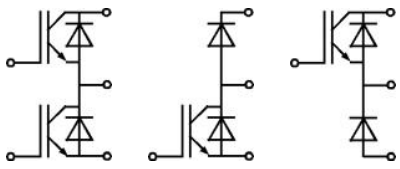
Target Data

Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- Hyperfast NPT technology IGBT
- N-channel homogeneous silicon structure (NPT Non-Punch-Through IGBT)
- Positive $V_{ce,sat}$ temperature coefficient (Easy paralleling)
- Low tail current with low temperature dependence
- Low treshold voltage

Typical Applications

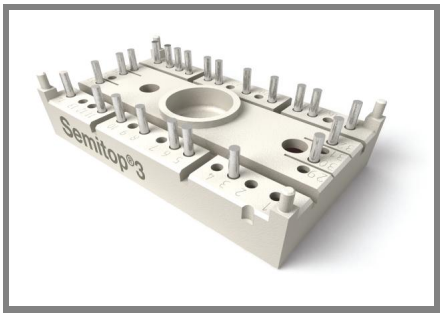
- Switching (not for linear use)
- High Frequencies Applications
- Welding generator
- Switched mode power supplies
- UPS



GB **GAL** **GAR**

Absolute Maximum Ratings	T_s = 25 °C, unless otherwise specified			
Symbol	**Conditions**		**Values**	**Units**
IGBT				
V_{CES}	T_j = 25 °C		600	V
I_C	T_j = 125 °C	T_s = 25 °C	62	A
		T_s = 80 °C	41	A
I_{CRM}	I_{CRM}= 2 x I_{Cnom}		180	A
V_{GES}			± 20	V
t_{psc}	V_{CC} = 300 V; $V_{GE} \leq$ 20 V; V_{CES} < 600 V	T_j = 125 °C	10	µs
Inverse Diode				
I_F	T_j = 150 °C	T_s = 25 °C	62	A
		T_s = 80 °C	38	A
I_{FRM}	I_{FRM}= 2 x I_{Fnom}			A
I_{FSM}	t_p = 10 ms; sinusoidal	T_j = °C	270	A
Module				
$I_{t(RMS)}$				A
T_{vj}			-40 ... +150	°C
T_{stg}			-40 ... +125	°C
V_{isol}	AC, 1 min.		2500	V

Characteristics	T_s = 25 °C, unless otherwise specified					
Symbol	**Conditions**		**min.**	**typ.**	**max.**	**Units**
IGBT						
$V_{GE(th)}$	V_{GE} = V_{CE}, I_C = 0,9 mA		3	4	5	V
I_{CES}	V_{GE} = 0 V, V_{CE} = V_{CES}	T_j = 25 °C			0,006	mA
I_{GES}	V_{CE} = 0 V, V_{GE} = 20 V	T_j = 25 °C			360	nA
V_{CE0}		T_j = 150 °C			2	V
r_{CE}	V_{GE} = 15 V	T_j = 150°C		17		mΩ
$V_{CE(sat)}$	I_{Cnom} = 90 A, V_{GE} = 15 V	T_j = 25°$C_{chiplev.}$		2,8	3,15	V
		T_j = 125°$C_{chiplev.}$		3,5	4	V
C_{ies}	V_{CE} = 25, V_{GE} = 0 V	f = 1 MHz		4,5		nF
C_{oes}				0,45		nF
C_{res}				0,27		nF
$t_{d(on)}$	R_{Gon} = 11 Ω	V_{CC} = 400V		20		ns
t_r		I_{Cnom}= 90A		10		ns
E_{on}		T_j = 125 °C		2,8		mJ
$t_{d(off)}$	R_{Goff} = 11 Ω	V_{GE}=±15V		270		ns
t_f				28		ns
E_{off}				2,1		mJ
$R_{th(j-s)}$	per IGBT				0,6	K/W



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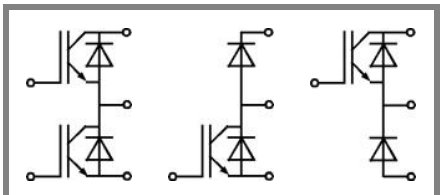


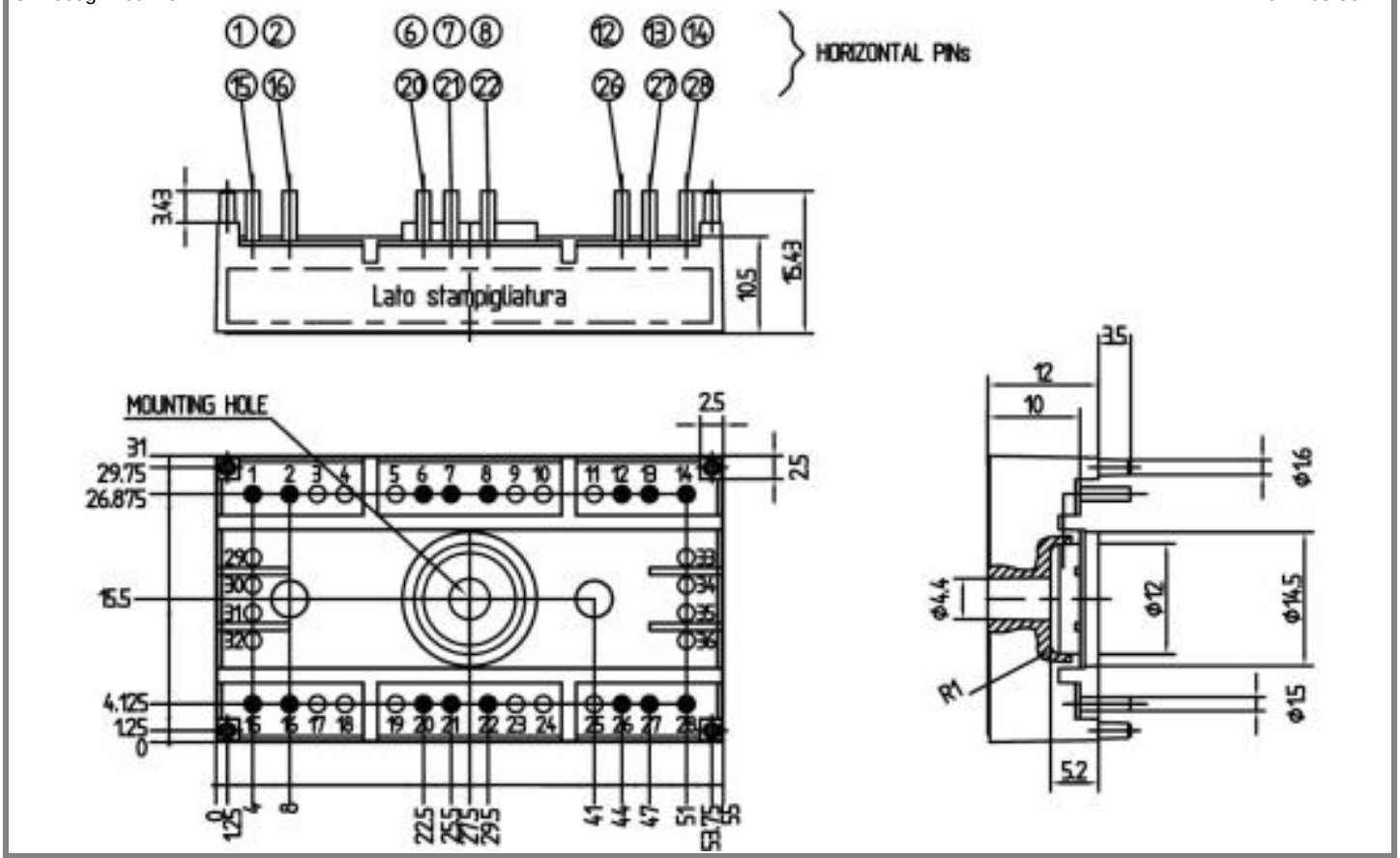
GB **GAL** **GAR**

Characteristics						
Symbol	**Conditions**		**min.**	**typ.**	**max.**	**Units**
Inverse Diode						
$V_F = V_{EC}$	I_{Fnom} = 90 A; V_{GE} = 0 V	T_j = 25 °$C_{chiplev.}$			2	V
		T_j = 150 °$C_{chiplev.}$		1,25		V
V_{F0}		T_j = 25 °C				V
		T_j = 150 °C		1		V
r_F		T_j = 25 °C				mΩ
		T_j = 150 °C		5,5		mΩ
I_{RRM}	I_{Fnom} = 90 A	T_j = 125 °C				A
Q_{rr}	di/dt = -100 A/µs					µC
E_{rr}	V_{CC}= 400V					mJ
$R_{th(j-s)D}$	per diode				1,2	K/W
M_s	to heat sink		2,25		2,5	Nm
w				29		g

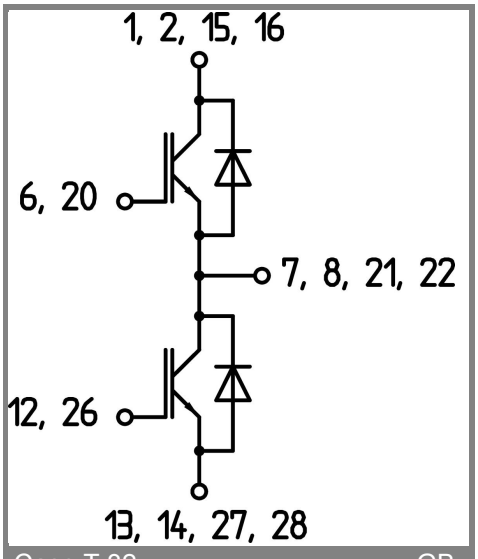
This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

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

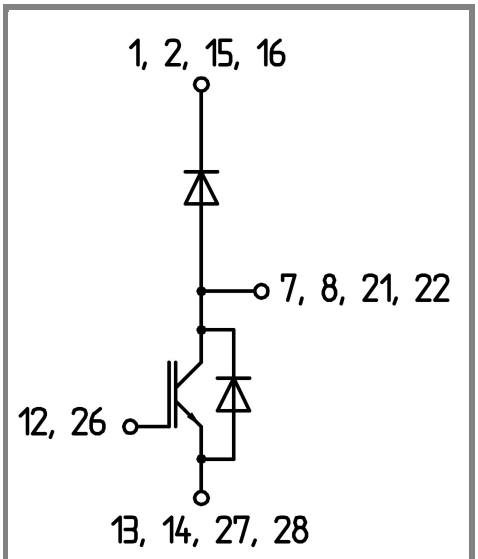
UL recognized file no. E 63 532



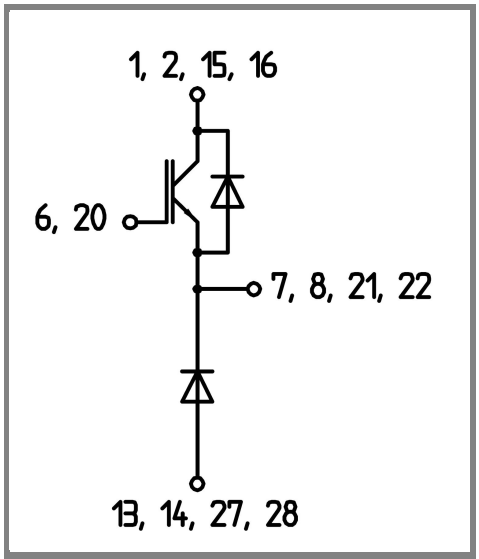
Case T66 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins: 2mm)



Case T 32 GB



Case T 70 GAL



Case T 71 GAR

