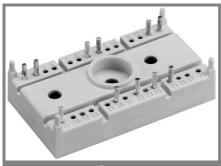
## SK 30 GH 067



SEMITOP<sup>®</sup> 3

### IGBT Module

#### SK 30 GH 067

Target Data

#### Features

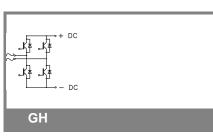
- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonding aluminium oxide ceramic (DBC)
- Hyper fast NPT IGBT
- N-channel homogeneous silicon structure (NPT-Non punch-through IGBT)
- Positive Vcesat temperature coefficient (Easy paralleling)
- Low threshold voltage
- Low tail current with low temperature dependence

#### **Typical Applications**

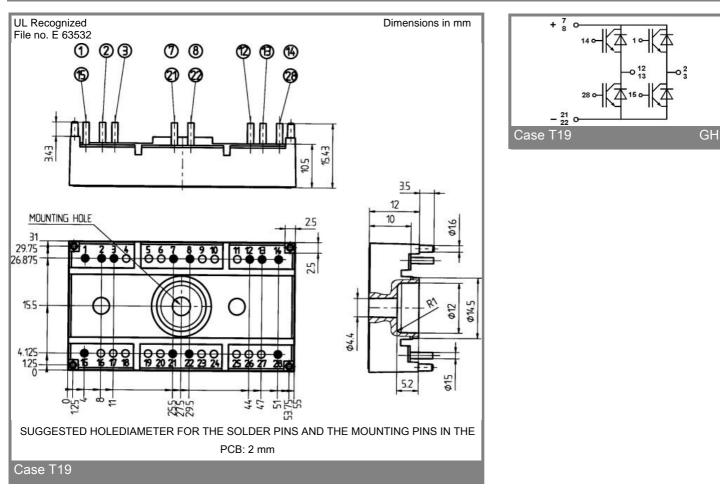
- Switching (not for linear use)
- High Frequencies Applications
- Welding Generator
- Switched mode power supplies
- UPS

Absolute Maximum Ratings		T <sub>s</sub> = 25 °C, unless otherwise	$T_s$ = 25 °C, unless otherwise specified			
Symbol	Conditions	Values	Units			
IGBT						
V <sub>CES</sub>		600	V			
V <sub>GES</sub>		± 20	V			
I <sub>C</sub>	T <sub>s</sub> = 25 (80) °C;	45 (30)	А			
I <sub>CM</sub>	t <sub>p</sub> < 1 ms; T <sub>s</sub> = 25 (80) °C;	90 (60)	А			
Т <sub>ј</sub>		- 40 + 150	°C			
Inverse / Freewheeling Diode						
I <sub>F</sub>	T <sub>s</sub> = 25 (80) °C;	48 (30)	А			
$I_{FM} = -I_{CM}$	t <sub>p</sub> < 1 ms; T <sub>s</sub> = 25 (80) °C;	96 (60)	А			
Т <sub>ј</sub>		- 40 + 150	°C			
T <sub>stg</sub>		- 40 + 125	°C			
T <sub>sol</sub>	Terminals, 10 s	260	°C			
V <sub>isol</sub>	AC 50 Hz, r.m.s. 1 min. / 1 s	2500 / 3000	V			

	3			pecified
Conditions	min.	typ.	max.	Units
$T_{C} = 60 \text{ A}, T_{j} = 25 (125) \text{ °C}$ $T_{CE} = V_{GE}; I_{C} = 0,0014 \text{ A}$ $T_{CE} = 25 \text{ V}; V_{GE} = 0 \text{ V}; 1 \text{ MHz}$ er IGBT	3	2,8 (3,5) 4 3	5 0,85	V V nF K/W
er module				K/W
nder following conditions: $V_{CC} = 400 \text{ V}, \text{ V}_{GE} = \pm 15 \text{ V}$ $C_{C} = 60 \text{ A}, \text{ T}_{j} = 125 \text{ °C}$ $R_{Gon} = R_{Goff} = 11 \Omega$				ns ns ns ns
nductive load		3,4		mJ
eewheeling Diode				
<sub>i</sub> = 30 A; T <sub>j</sub> = 25 (150) °C <sub>j</sub> = (125) °C <sub>j</sub> = (125) °C		1,1 (0,85) (7,1)	18	V V mΩ K/W
nder following conditions:			.,0	
$I_{\rm F} = A; V_{\rm R} = 300 \text{ V}$ $I_{\rm F}/dt = A/\mu s$ $V_{\rm GE} = 0 \text{ V}; T_{\rm j} = 125 °C$				Α μC mJ
data				
nounting torque	2,3	30	2,5	Nm g
EMITOP <sup>®</sup> 3		T 19		
	$g = 60 \text{ A}, T_{j} = 25 (125) ^{\circ}\text{C}$ $G_{CE} = V_{GE}; I_{C} = 0,0014 \text{ A}$ $G_{CE} = 25 \text{ V}; V_{GE} = 0 \text{ V}; 1 \text{ MHz}$ er IGBT er module inder following conditions: $G_{CC} = 400 \text{ V}, V_{GE} = \pm 15 \text{ V};$ $g = 60 \text{ A}, T_{j} = 125 ^{\circ}\text{C}$ $G_{on} = R_{Goff} = 11 \Omega$ inductive load eewheeling Diode $g = 30 \text{ A}; T_{j} = 25 (150) ^{\circ}\text{C};$ $g = (125) ^{\circ}\text{C}$ $g = (125) ^{\circ}\text{C}$ inder following conditions: $g = A; V_{R} = 300 \text{ V}; T_{j} = 125 ^{\circ}\text{C}$ $G_{GE} = 0 \text{ V}; T_{j} = 125 ^{\circ}\text{C}$ index following conditions: $g = 0 \text{ V}; T_{j} = 125 ^{\circ}\text{C}$ is a counting torque	$\begin{array}{c c} = 60 \text{ A},  \text{T}_{\text{j}} = 25 (125) \ ^{\circ}\text{C} \\ CE = V_{\text{GE}};  \text{I}_{\text{C}} = 0,0014 \text{ A} \\ CE = 25 \text{ V}; \text{ V}_{\text{GE}} = 0 \text{ V}; 1 \text{ MHz} \\ \text{er IGBT} \\ \text{er module} \\ \hline \text{nder following conditions:} \\ CC = 400 \text{ V}, \text{ V}_{\text{GE}} = \pm 15 \text{ V} \\ \text{;} = 60 \text{ A},  \text{T}_{\text{j}} = 125 \ ^{\circ}\text{C} \\ \text{Gon} = \text{R}_{\text{Goff}} = 11 \ \Omega \\ \hline \text{nductive load} \\ \hline \hline \text{ewheeling Diode} \\ \text{= } 30 \text{ A};  \text{T}_{\text{j}} = 25 (150) \ ^{\circ}\text{C} \\ \text{;} = (125) \ ^{\circ}\text{C} \\ \text{;} = (125) \ ^{\circ}\text{C} \\ \text{i} = (125) \ ^{\circ}\text{C} \\ \text{i} = \text{A}; \text{ V}_{\text{R}} = 300 \text{ V} \\ \text{I}_{\text{F}}/\text{dt} = \text{ A}/\mu\text{s} \\ \text{GE} = 0 \text{ V}; \text{ T}_{\text{j}} = 125 \ ^{\circ}\text{C} \\ \hline \hline \text{data} \\ \text{iounting torque} \\ \hline \begin{array}{c} 2,3 \end{array}$	$\begin{array}{c c} = 60 \text{ A},  \text{T}_{\text{j}} = 25 (125) \ ^{\circ}\text{C} & 2,8 (3,5) \\ \text{CE} = \text{V}_{\text{GE}};  \text{I}_{\text{C}} = 0,0014 \text{ A} & 3 & 4 \\ \text{CE} = 25 \text{ V}; \text{ V}_{\text{GE}} = 0 \text{ V}; 1 \text{ MHz} & 3 \\ \text{er IGBT} & 3 & 4 \\ \text{er module} & 3 & 3 & 4 \\ \text{moder following conditions:} & & & & & & \\ \text{cC} = 400 \text{ V}, \text{ V}_{\text{GE}} = \pm 15 \text{ V} & & & & \\ \text{s} = 60 \text{ A}, \text{ T}_{\text{j}} = 125 \ ^{\circ}\text{C} & & & & \\ \text{Gon} = \text{R}_{\text{Goff}} = 11 \ \Omega & & & & & & \\ \text{nductive load} & & 3,4 \\ \text{ewheeling Diode} & & & & & & \\ \text{ewheeling Diode} & & & & & & \\ \text{ewheeling Diode} & & & & & & & \\ \text{ewheeling Diode} & & & & & & & \\ \text{ewheeling Diode} & & & & & & & \\ \text{e} (125) \ ^{\circ}\text{C} & & & & & & & & \\ \text{f} (125) \ ^{\circ}\text{C} & & & & & & & & \\ \text{f} (125) \ ^{\circ}\text{C} & & & & & & & & \\ \text{f} \text{det following conditions:} & & & & & \\ \text{e} \text{ A}; \text{ V}_{\text{R}} = 300 \text{ V} & & & & \\ \text{h}_{\text{F}}/\text{dt} = \text{ A}/\mu\text{s} & & & \\ \text{GE} = 0 \text{ V}; \text{ T}_{\text{j}} = 125 \ ^{\circ}\text{C} & & & & \\ \text{founting torque} & & & & & & \\ found the value of the second s$	$\begin{array}{c c} = 60 \text{ A}, \text{ T}_{j} = 25 (125) \ ^{\circ}\text{C} \\ CE = V_{GE};  1_{C} = 0,0014 \text{ A} \\ CE = 25 \text{ V};  V_{GE} = 0 \text{ V}; 1 \text{ MHz} \\ \text{er IGBT} \\ \text{er module} \\ \hline \text{nder following conditions:} \\ CC = 400 \text{ V},  V_{GE} = \pm 15 \text{ V} \\ = 60 \text{ A},      125 \ ^{\circ}\text{C} \\ \text{Gon} = \text{R}_{Goff} = 11 \ \Omega \\ \hline \text{nductive load} \\ \hline \text{aductive load} \\ \hline \text{aductive load} \\ \hline \text{aductive load} \\ \hline \text{aductive load} \\ \hline \text{er module} \\ = 30 \text{ A};     25 (150) \ ^{\circ}\text{C} \\ = (125) \ ^{\circ}\text{C} \\ = (125) \ ^{\circ}\text{C} \\        \text$



# SK 30 GH 067



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.