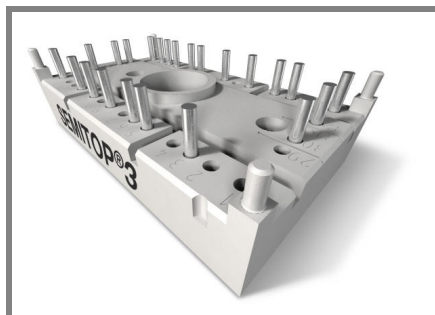




SEMITOP® 3

IGBT Module

SK45GD063

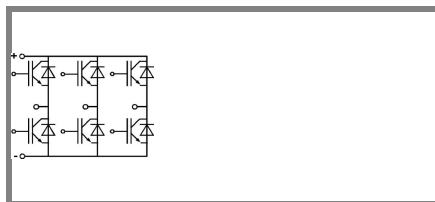
Preliminary Data

Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- N channel, homogeneous Silicon structure (NPT-Non punchthrough IGBT)
- High short circuit capability
- Low tail current with low temperature dependence
- UL recognized, file no. E63532

Typical Applications

- Switching (not for linear use)
- Inverter
- Switched mode power supplies
- UPS

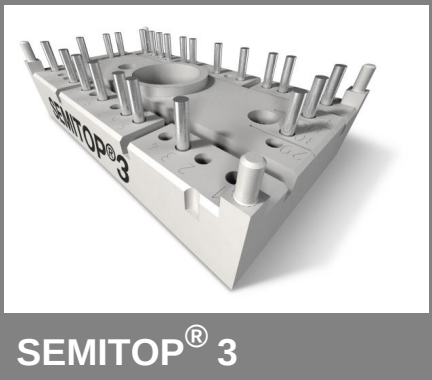


GD

Absolute Maximum Ratings				$T_s = 25\text{ °C}$, unless otherwise specified	
Symbol	Conditions			Values	Units
IGBT					
V_{CES}	$T_j = 25\text{ °C}$			600	V
I_C	$T_j = 125\text{ °C}$	$T_s = 25\text{ °C}$		45	A
		$T_s = 80\text{ °C}$		30	A
I_{CRM}	$I_{CRM} = 2 \times I_{Cnom}$			100	A
V_{GES}				± 20	V
t_{psc}	$V_{CC} = 300\text{ V}$; $V_{GE} \leq 20\text{ V}$; $T_j = 125\text{ °C}$ $V_{CES} < 600\text{ V}$			10	μs
Inverse Diode					
I_F	$T_j = 125\text{ °C}$	$T_s = 25\text{ °C}$		36	A
		$T_s = 80\text{ °C}$		24	A
I_{FRM}	$I_{FRM} = 2 \times I_{Fnom}$				A
I_{FSM}	$t_p = 10\text{ ms}$; half sine wave $T_j = 150\text{ °C}$			200	A
Module					
$I_{t(RMS)}$					A
T_{vj}				-40 ... +150	$^{\circ}\text{C}$
T_{stg}				-40 ... +125	$^{\circ}\text{C}$
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 = 1 mA		4,5	5,5	6,5	V
I _{CES}	V _{GE} = 0 V, V _{CE} = V _{CES}	T _j = 25 °C T _j = 125 °C	0,15			mA mA
I _{GES}	V _{CE} = 0 V, V _{GE} = 30 V	T _j = 25 °C T _j = 125 °C	120			nA nA
V _{CE0}		T _j = 25 °C T _j = 125 °C	1 1,1			V V
r _{CE}	V _{GE} = 15 V	T _j = 25°C T _j = 125°C	20			mΩ mΩ
V _{CE(sat)}	I _{Cnom} = 50 A, V _{GE} = 15 V	T _j = 25°C _{chiplev.} T _j = 125°C _{chiplev.}	2,1 2,5			V V
C _{ies} C _{oes} C _{res}	V _{CE} = 25, V _{GE} = 0 V	f = 1 MHz	2,2 0,2			nF nF nF
Q _G	V _{GE} = 0 ... 20 V		155			nC
t _{d(on)} t _r E _{on}	R _{Gon} = 22 Ω	V _{CC} = 300V I _C = 30A	45 40 1,4			ns ns mJ
t _{d(off)} t _f E _{off}	R _{Goff} = 22 Ω	T _j = 125 °C V _{GE} = ±15V	250 30 1,2			ns ns mJ
R _{th(j-s)}	per IGBT		1			K/W

SK45GD063



IGBT Module

SK45GD063

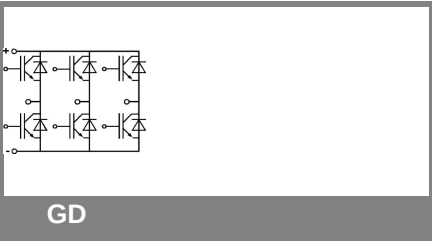
Preliminary Data

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Typical Applications

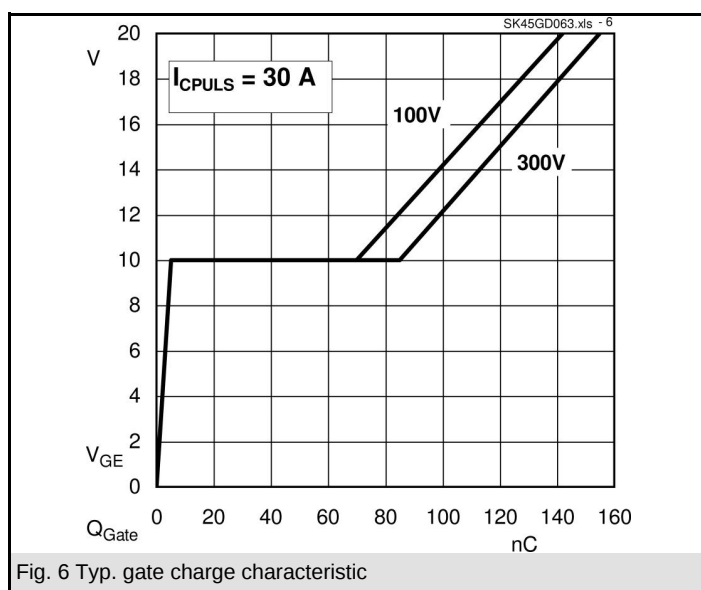
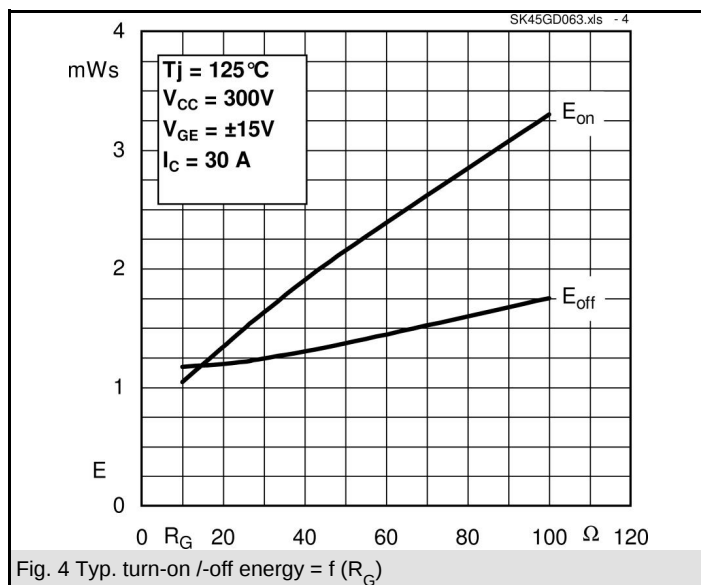
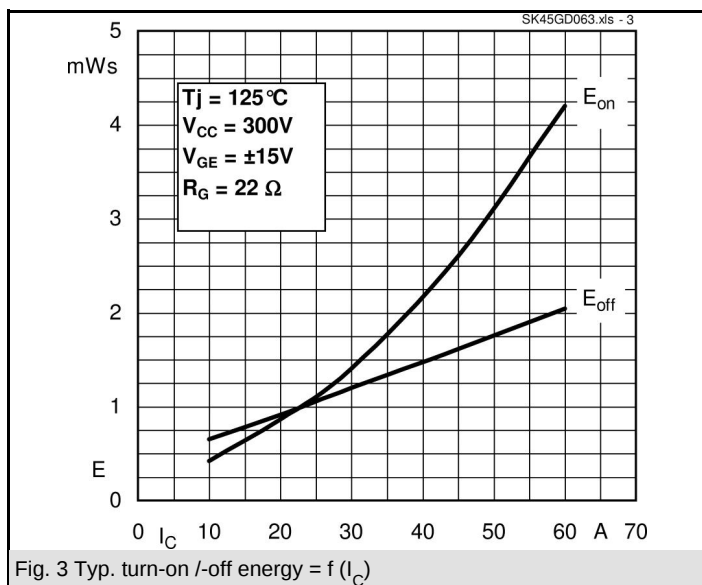
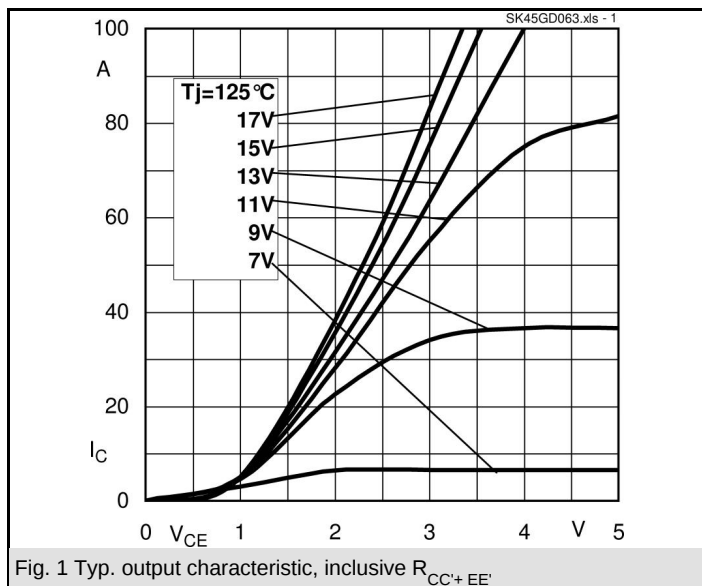
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- Inverter
- Switched mode power supplies
- UPS

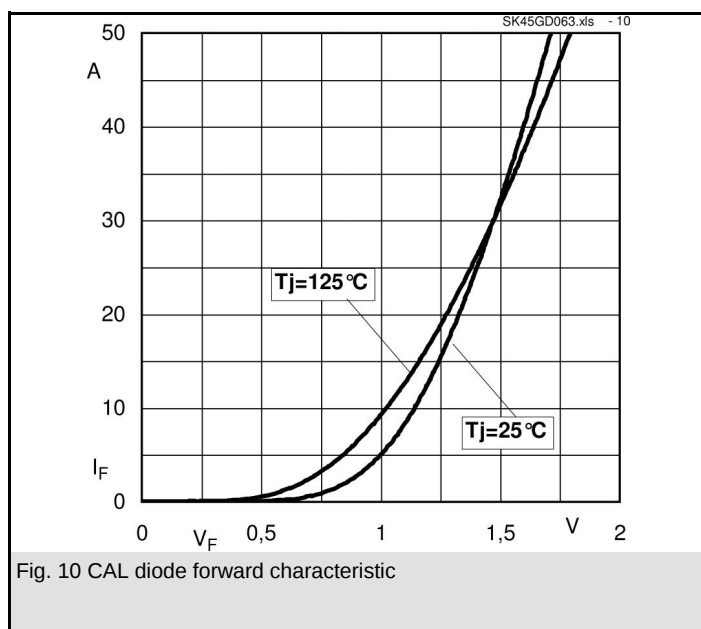
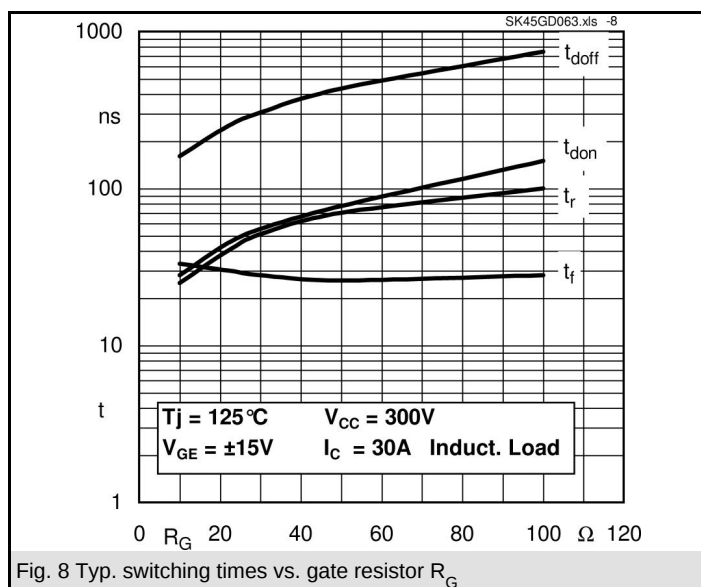
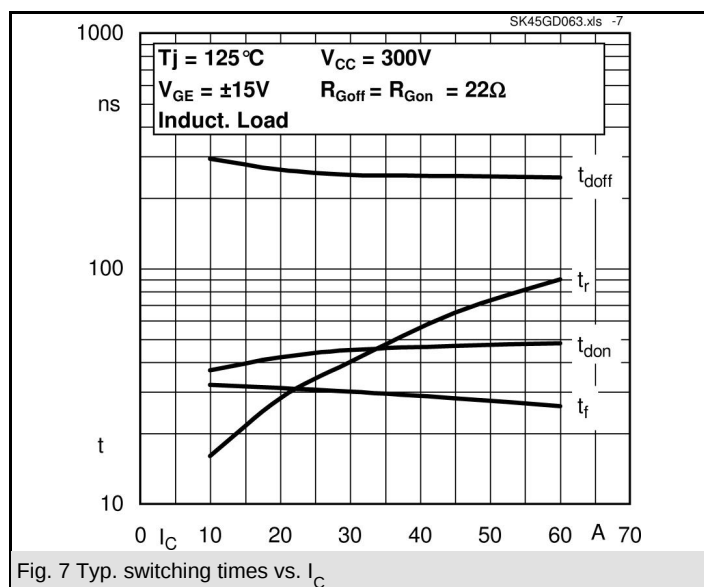


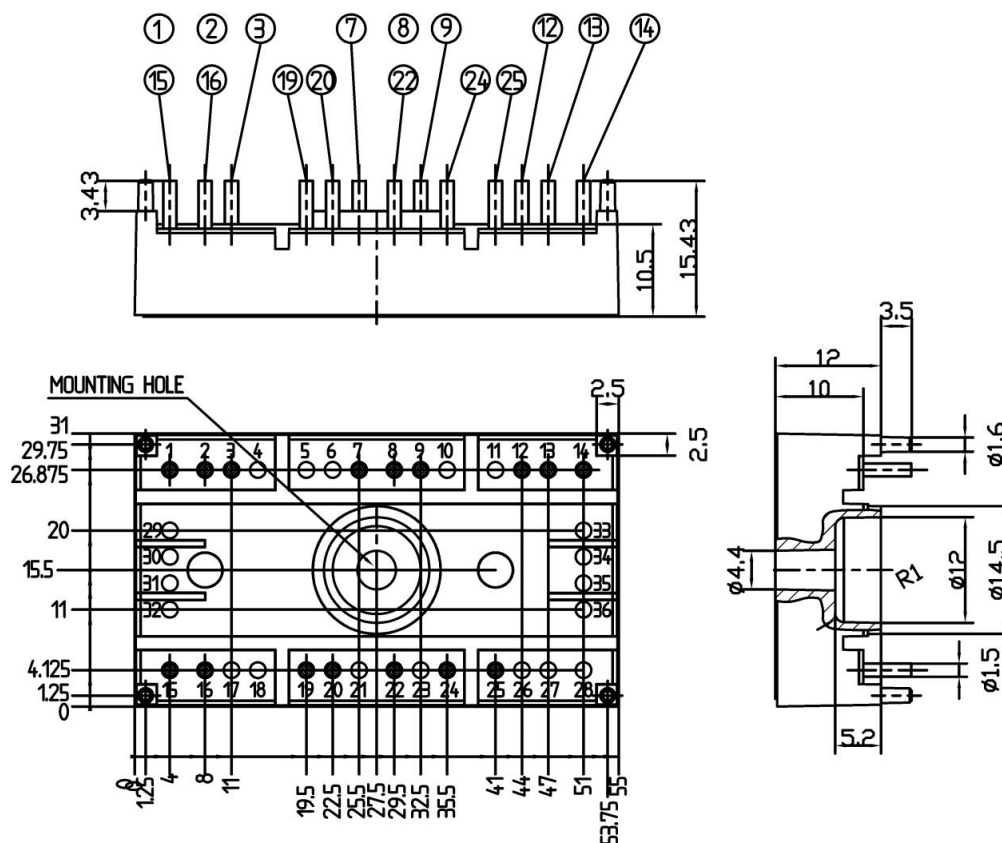
Characteristics						
Symbol	Conditions		min.	typ.	max.	Units
Inverse Diode						
V _F = V _{EC}	I _{Fnom} = 25 A; V _{GE} = 0 V	T _j = 25 °C _{chiplev.}		1,45	1,7	V
		T _j = 125 °C _{chiplev.}		1,4	1,75	V
V _{F0}		T _j = 125 °C		0,85	0,9	V
r _F		T _j = 125 °C		22	16	mΩ
I _{RRM}	I _F = 25 A di/dt = -500 A/μs V _{CC} = 300V	T _j = 125 °C		16		A
Q _{rr}				2		μC
E _{rr}				0,25		mJ
R _{th(j-s)D}	per diode				1,7	K/W
M _s	to heat sink M1		2,25		2,5	Nm
w				30		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.







Case T16 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins: 2mm)

