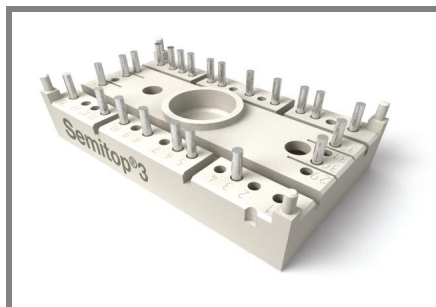




SEMITOP® 3

IGBT Module

SK10GD123

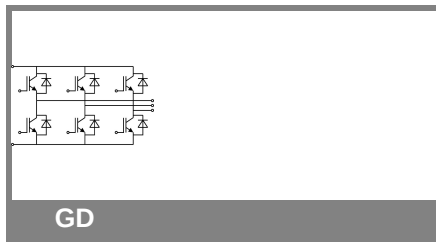
Preliminary Data

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 punch-through IGBT)
- High short circuit capability
- Low tail current with low temperature dependence
- UL recognized, file no. E63532

Typical Applications

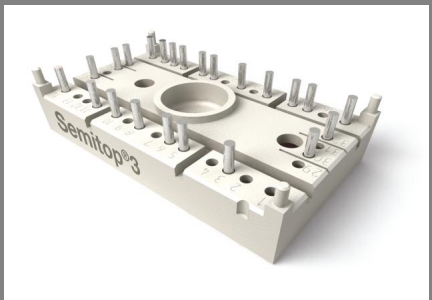
- Switching (not for linear use)
- Inverter
- Switched mode power supplies
- UPS



GD

Absolute Maximum Ratings			T _s = 25 °C, unless otherwise specified	
Symbol	Conditions		Values	Units
IGBT				
V _{CES}	T _j = 25 °C		1200	V
I _C	T _j = 125 °C	T _s = 25 °C	16	A
		T _s = 80 °C	11	A
I _{CRM}	I _{CRM} = 2 x I _{Cnom}		16	A
V _{GES}			± 20	V
t _{psc}	V _{CC} = 600 V; V _{GE} ≤ 20 V; T _j = 125 °C V _{CES} < 1200 V		10	μs
Inverse Diode				
I _F	T _j = 150 °C	T _s = 25 °C	18	A
		T _s = 80 °C	12	A
I _{FRM}	I _{FRM} = 2 x I _{Fnom}			A
I _{FSM}	t _p = 10 ms; half sine wave T _j = 150 °C		125	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 = 0,35 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				0,05	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}				1,2 1,2		V V
r _{CE}	V _{GE} = 15 V T _j = 25°C T _j = 125°C			150 210		mΩ mΩ
V _{CE(sat)}	I _{Cnom} = 10 A, V _{GE} = 15 V T _j = 25°C _{chiplev.} T _j = 125°C _{chiplev.}			2,7 3,3	3,2 3,9	V V
C _{ies} C _{oes} C _{res}	V _{CE} = 25, V _{GE} = 0 V f = 1 MHz			0,6 0,06 0,038		nF nF nF
t _{d(on)} t _r E _{on}	R _{Gon} = 50 Ω V _{CC} = 600V I _{Cnom} = 10A			30 45 1,3		ns ns mJ
t _{d(off)} t _f E _{off}	R _{Goff} = 50 Ω T _j = 125 °C V _{GE} =±15V			200 35 1		ns ns mJ
R _{th(j-s)}	per IGBT				1,8	K/W



SEMITOP® 3

IGBT Module

SK10GD123

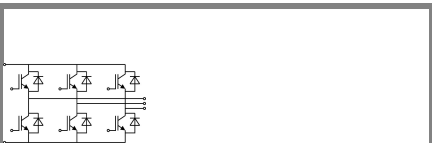
Preliminary Data

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Typical Applications

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

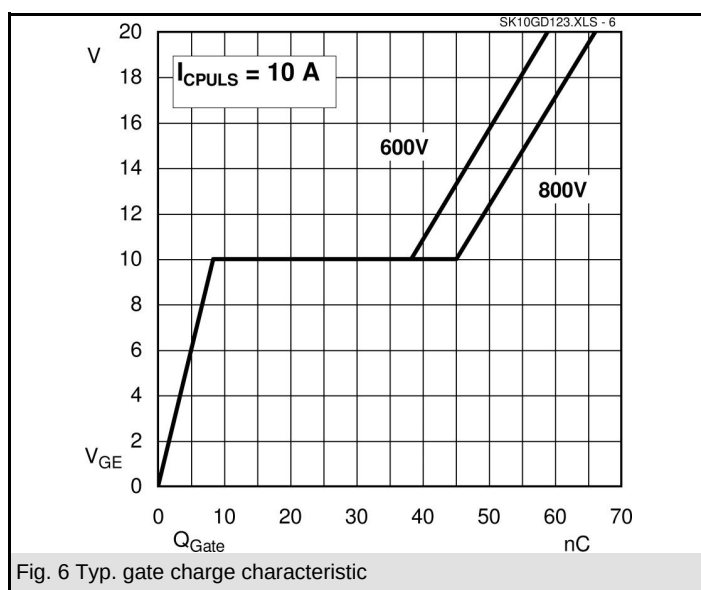
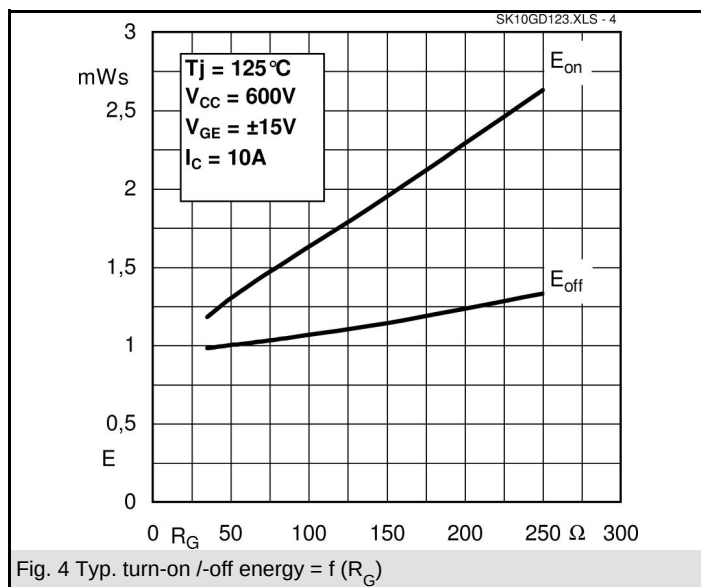
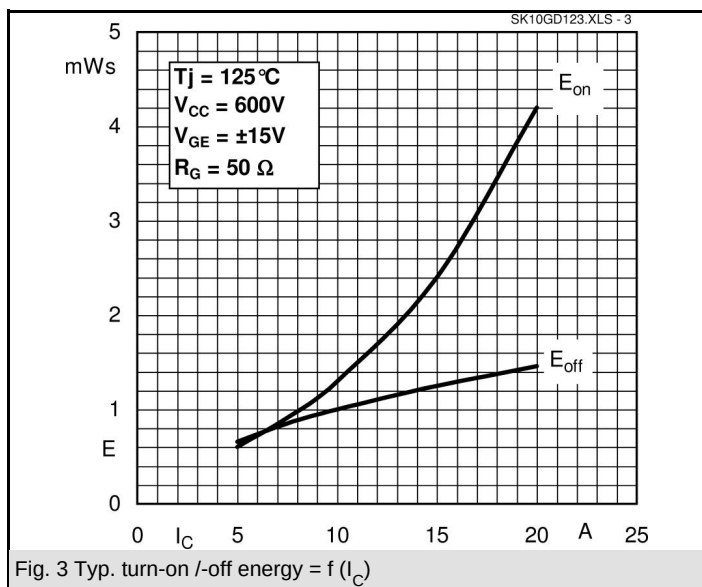
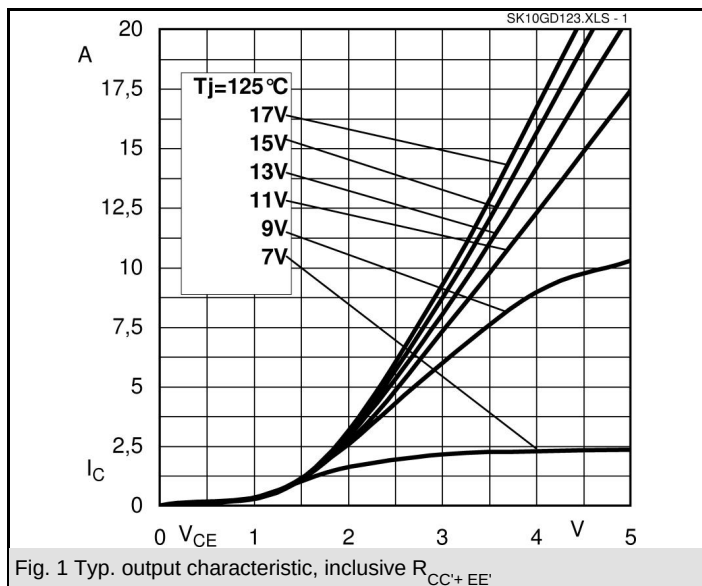


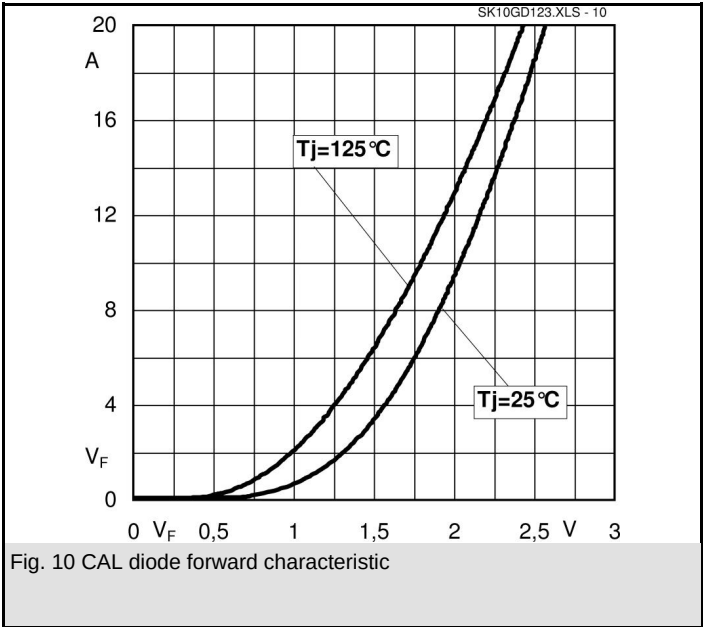
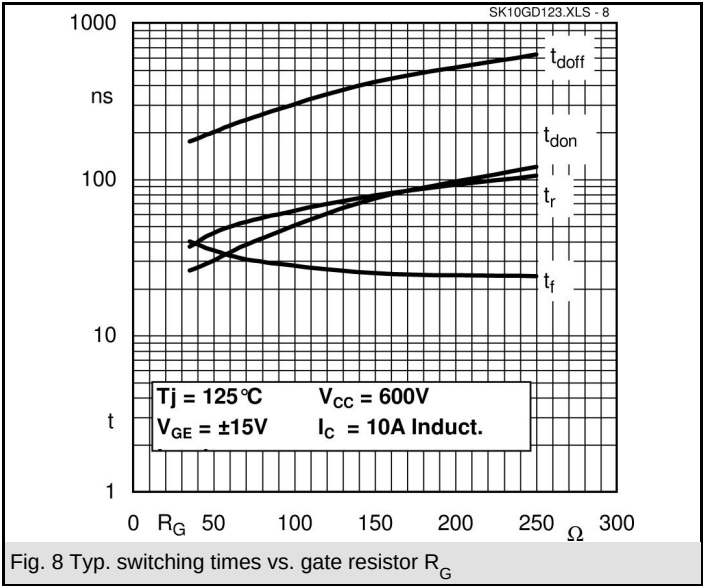
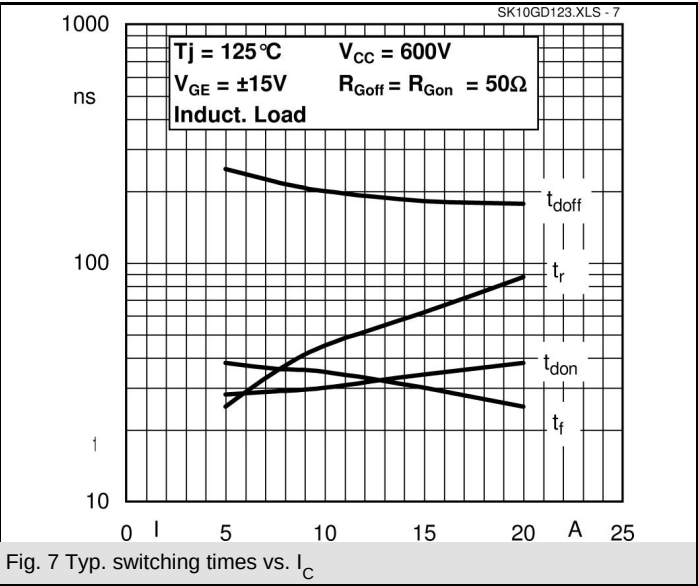
GD

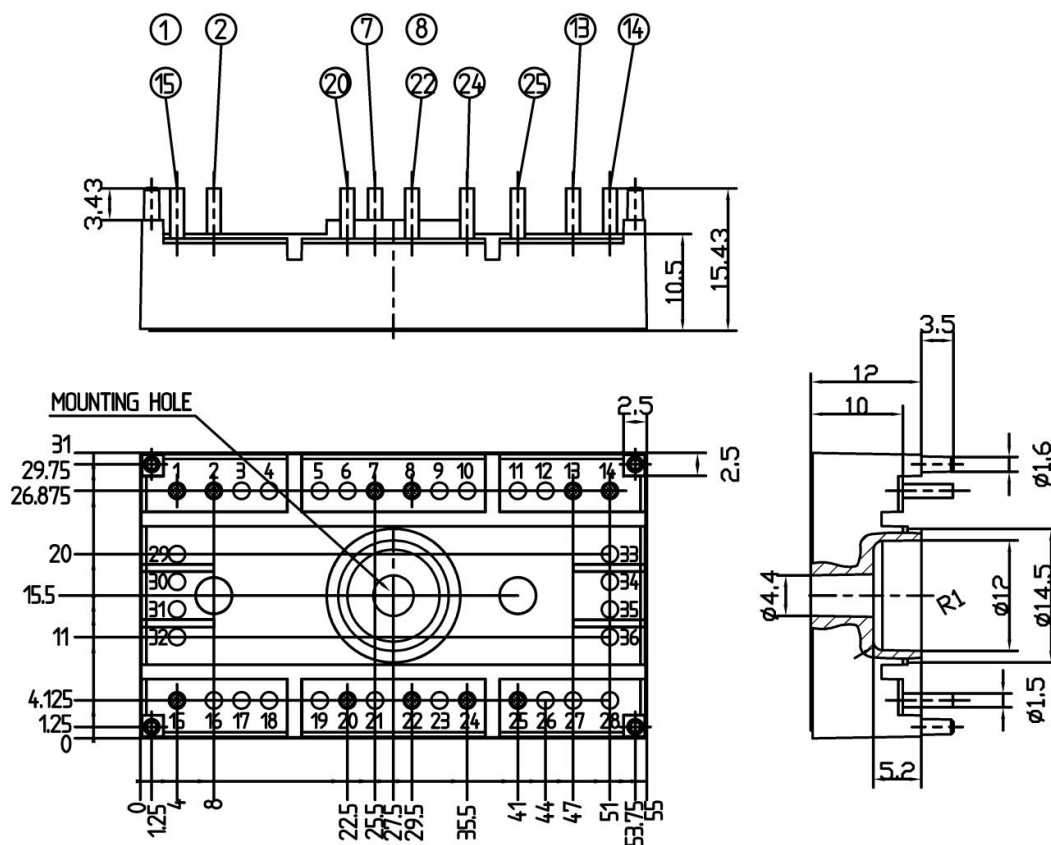
Characteristics						
Symbol	Conditions		min.	typ.	max.	Units
Inverse Diode						
V _F = V _{EC}	I _{Fnom} = 10 A; V _{GE} = 0 V	T _j = 25 °C _{chiplev.}		2	2,5	V
		T _j = 125 °C _{chiplev.}		1,8	2,3	V
V _{F0}		T _j = 125 °C		1	1,2	V
r _F		T _j = 125 °C		80	110	mΩ
I _{RRM}	I _{Fnom} = 10 A di/dt = -300 A/μs V _{CC} = 600V	T _j = 125 °C		12		A
Q _{rr}				1,8		μC
E _{rr}				0,4		mJ
R _{th(j-s)D}	per diode				2,1	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 T12 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins: 2mm)

