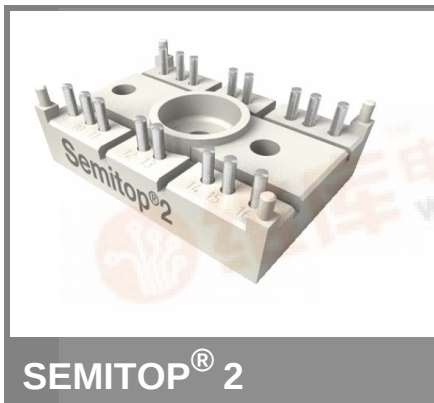


SK60GAL125



IGBT Module

SK60GAL125

SK60GAR125

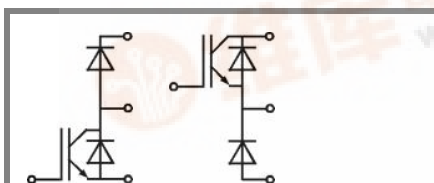
Target Data

Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- High short circuit capability
- Ultra Fast NPT IGBT technology
- $V_{ce,sat}$ with positive coefficient

Typical Applications

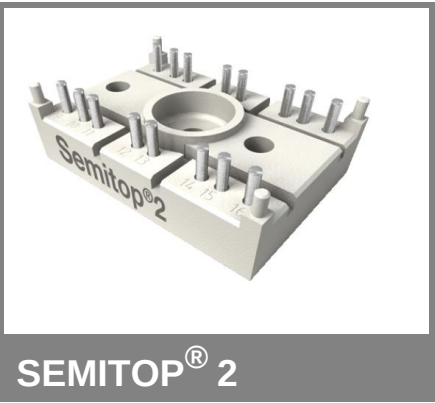
- Switching (not for linear use)
- Inverter
- Switched mode power supplies
- UPS



Absolute Maximum Ratings		$T_s = 25^\circ\text{C}$, unless otherwise specified		
Symbol	Conditions	Values	Units	
IGBT				
V_{CES}	$T_j = 25^\circ\text{C}$	1200	V	
I_C	$T_j = 125^\circ\text{C}$	$T_s = 25^\circ\text{C}$	51	A
		$T_s = 80^\circ\text{C}$	35	A
I_{CRM}	$I_{CRM} = 2 \times I_{Cnom}$	100	A	
V_{GES}		± 20	V	
t_{psc}	$V_{CC} = 300\text{ V}; V_{GE} \leq 20\text{ V}; T_j = 125^\circ\text{C}$ $V_{CES} < 600\text{ V}$	10	μs	
Inverse Diode				
I_F	$T_j = 150^\circ\text{C}$	$T_s = 25^\circ\text{C}$	43	A
		$T_s = 80^\circ\text{C}$	29	A
I_{FRM}	$I_{FRM} = 2 \times I_{Fnom}$			A
I_{FSM}	$t_p = 10\text{ ms}; \text{half sine wave } T_j = 25^\circ\text{C}$	110	A	
Freewheeling Diode				
I_F	$T_j = 150^\circ\text{C}$	$T_s = 25^\circ\text{C}$	57	A
		$T_s = 80^\circ\text{C}$	38	A
I_{FRM}				A
I_{FSM}	$t_p = 10\text{ ms}; \text{half sine wave } T_j = 150^\circ\text{C}$	550	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 = 2 mA		4,5	5,5	6,5	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				300	nA
V _{CE0}	T _j = 25 °C			1,4	1,9	V
	T _j = 125 °C			1,7	2,2	V
r _{CE}	V _{GE} = 15 V T _j = 25°C			36		mΩ
	T _j = 125°C			43		mΩ
V _{CE(sat)}	I _{Cnom} = 50 A, V _{GE} = 15 V T _j = 25°C _{chiplev.}			3,2	3,7	V
	T _j = 125°C _{chiplev.}			3,85		V
C _{ies}	V _{CE} = 25, V _{GE} = 0 V f = 1 MHz			3,3		nF
C _{oes}				0,5		nF
C _{res}				0,22		nF
t _{d(on)}	R _{Gon} = 33 Ω	V _{CC} = 600V I _{Cnom} = 45A		8,36		ns
t _r						ns
E _{on}	R _{Goff} = 33 Ω	T _j = 125 °C V _{GE} =±15V		3,32		mJ
t _{d(off)}						ns
t _f						ns
E _{off}						mJ
R _{th(j-s)}	per IGBT				0,6	K/W

SK60GAL125



IGBT Module

SK60GAL125
SK60GAR125

Target Data

Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- High short circuit capability
- Ultra Fast NPT IGBT technology
- $V_{ce,sat}$ with positive coefficient

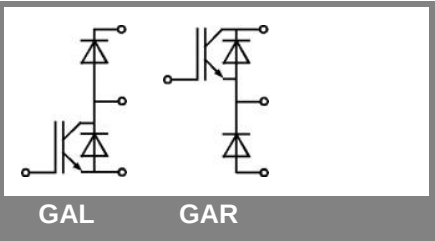
Typical Applications

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

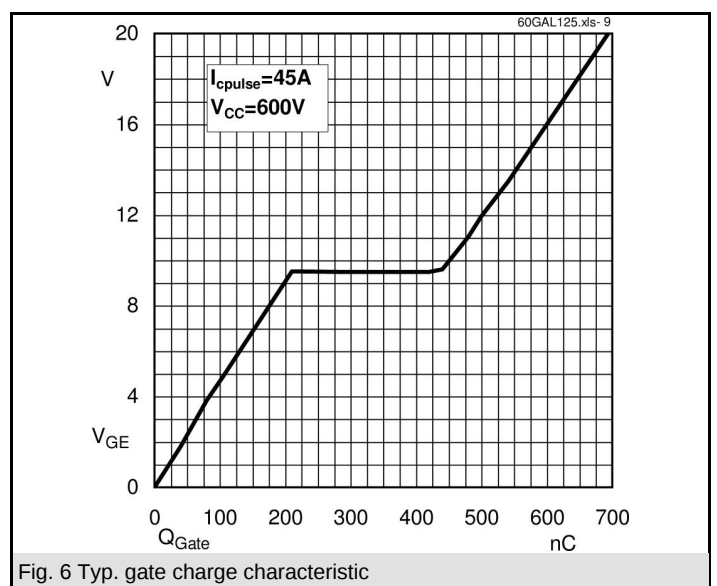
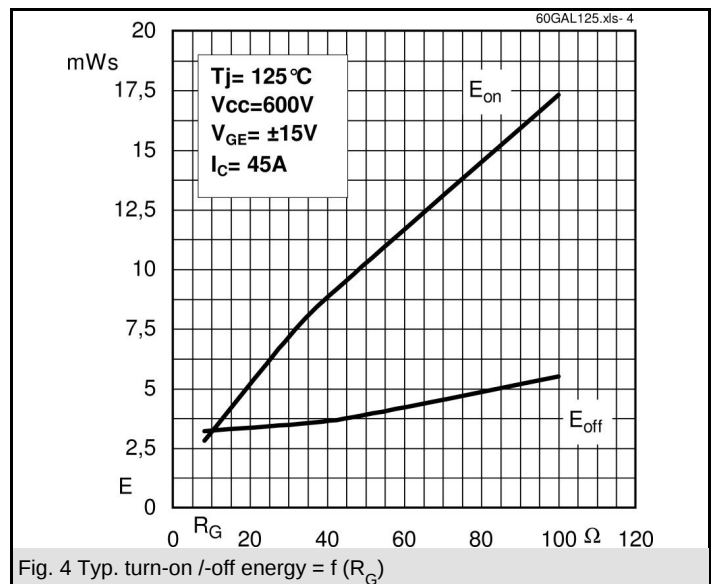
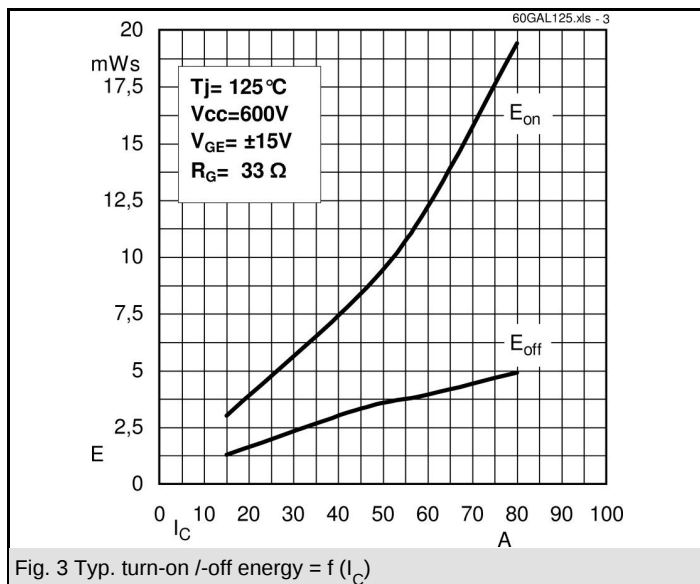
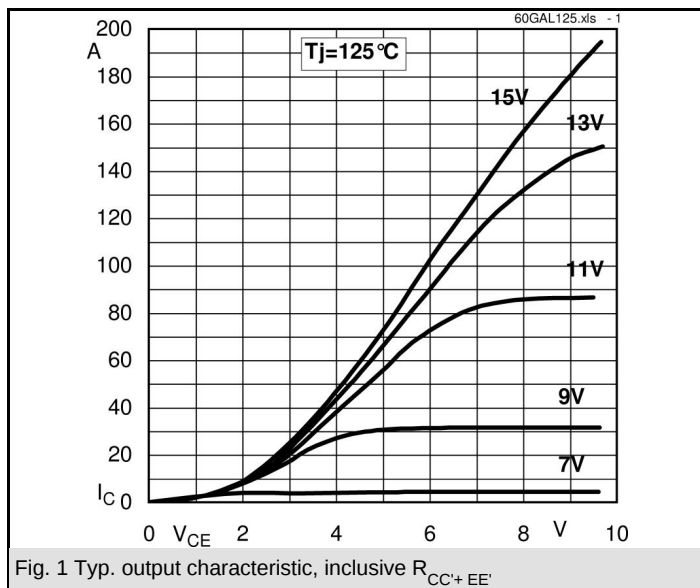
Characteristics						
Symbol	Conditions		min.	typ.	max.	Units
Inverse Diode						
V _F = V _{EC}	I _{Fnom} = 10 A; V _{GE} = 0 V	T _j = 25 °C _{chiplev.}		2	2,5	V
		T _j = 150 °C _{chiplev.}		1,79	2,3	V
V _{F0}		T _j = 25 °C				V
		T _j = 125 °C		1,18		V
r _F		T _j = 25 °C				mΩ
		T _j = 125 °C		31,5		mΩ
I _{RRM}	I _{Fnom} = 30 A di/dt = -100 A/μs V _{CC} = 400V	T _j = 125 °C				A
Q _{rr}						μC
E _{rr}						mJ
R _{th(j-s)D}	per diode				1,16	K/W
Freewheeling Diode						
V _F = V _{EC}	I _{Fnom} = 50 A; V _{GE} = 0 V	T _j = 25 °C _{chiplev.}		2	2,5	V
		T _j = 125 °C _{chiplev.}		1,8		V
V _{F0}		T _j = 125 °C		1	1,2	V
r _F		T _j = 125 °C		16	22	V
I _{RRM}	I _{Fnom} = 50 A di/dt = -800 A/μs V _R =600V	T _j = 125 °C				A
Q _{rr}						μC
E _{rr}						mJ
R _{th(j-s)FD}	per diode				0,9	K/W
M _s	to heat sink				2	Nm
w				19		g

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

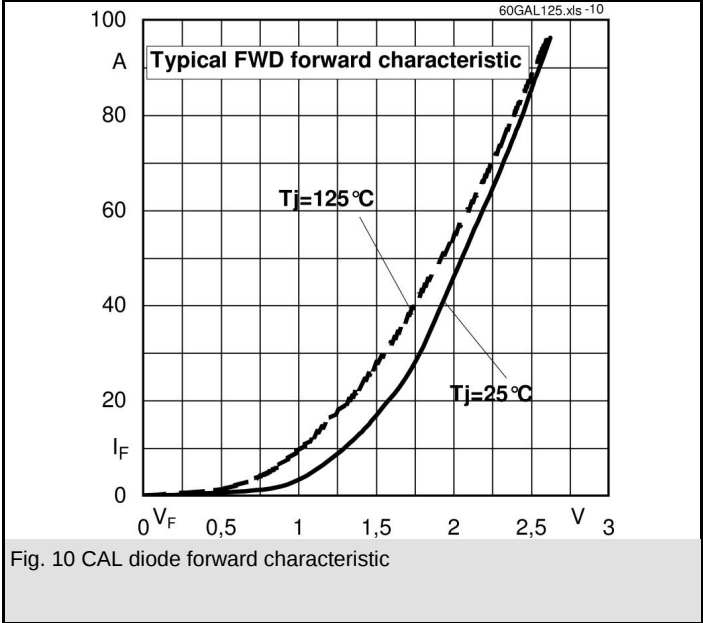
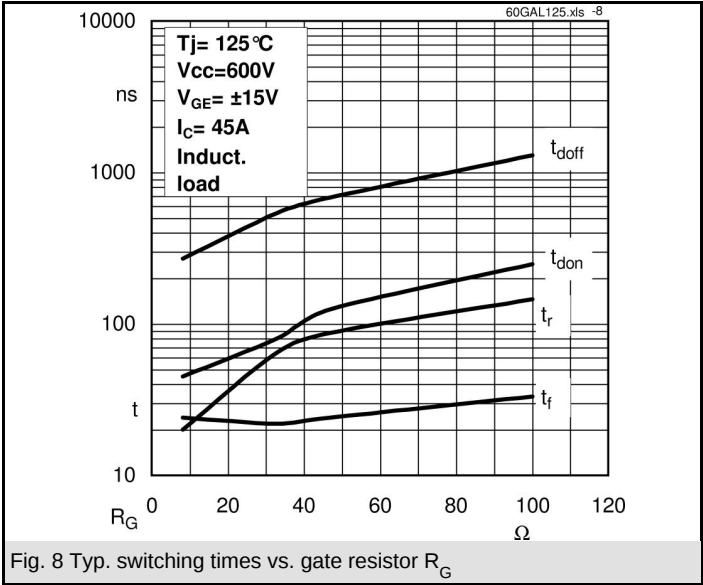
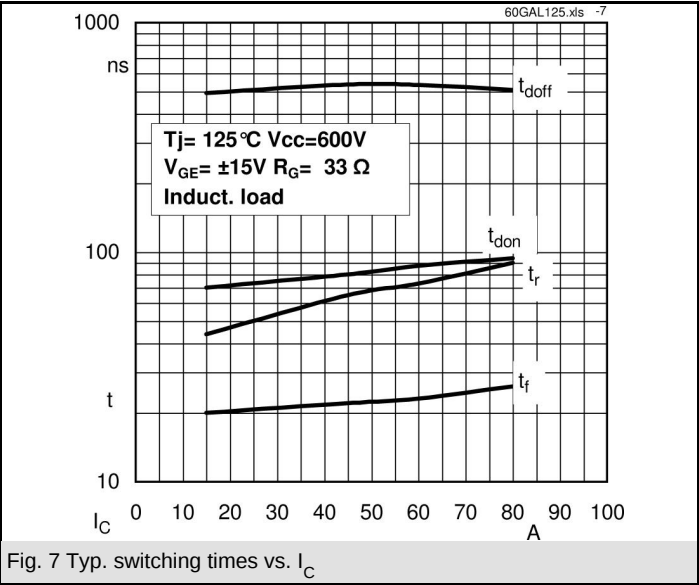
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SK60GAL125



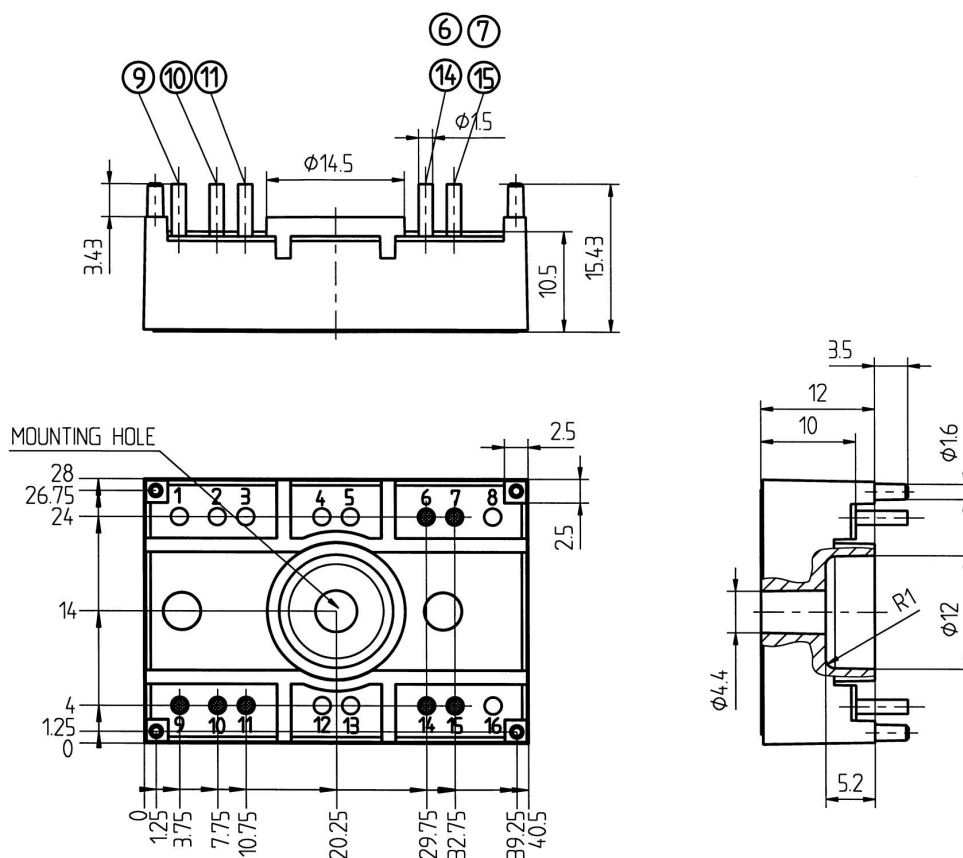
SK60GAL125



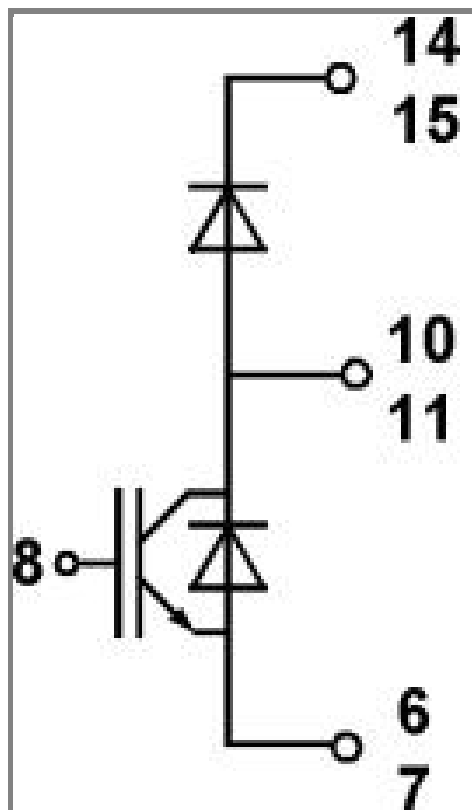
SK60GAL125

UL recognized file

no. E 63 532

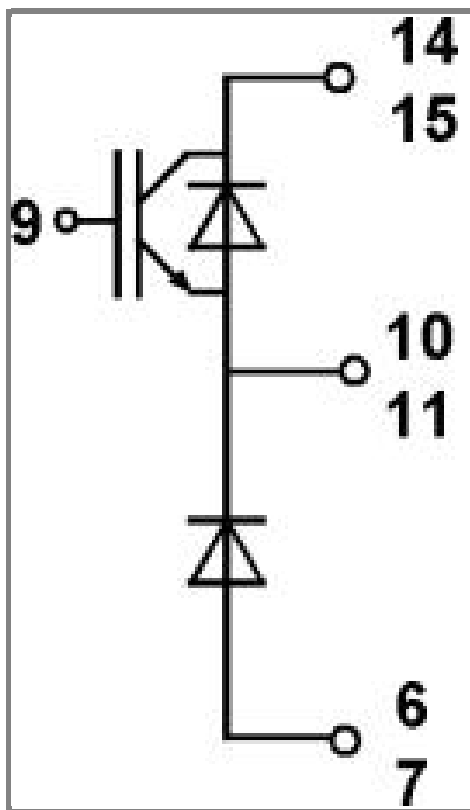


Case T18 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins: 2mm)



Case T 18

GAL



Case T 18

GAR