

SEMITOP® 1

IGBT Module

SK 25 GB 063 SK 25 GAL 063 SK 25 GAR 063

Preliminary Data

Features

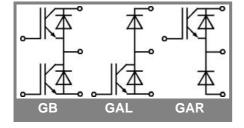
- Compact design
- · One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- N-channel homogeneous silicon structure (NPT-Non punch-through IGBT)
- · High short circuit capability
- Low tail current with low temperature dependence
- UL recognized, file no. E 63 532

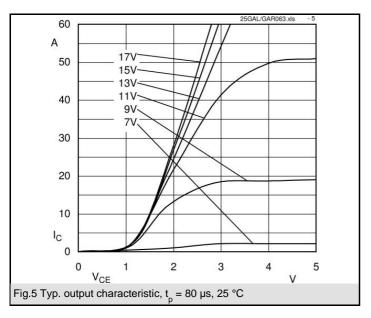
Typical Applications

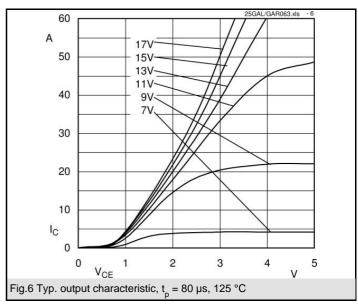
- Switching (not for linear use)
- Inverter
- Switched mode power supplies
- UPS

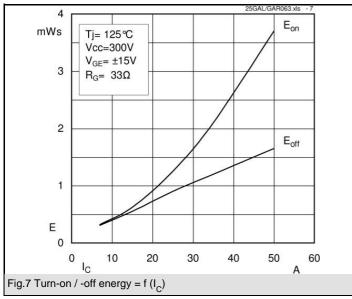
Absolute Maximum Ratings		T _h = 25 °C, unless otherwise specified						
Symbol	Conditions	Values	Units					
IGBT								
V_{CES}		600	V					
V_{GES}		± 20	V					
I _C	T _s = 25 (80) °C;	30 (21)	Α					
I _{CM}	$t_p < 1 \text{ ms}; T_s = 25 (80) ^{\circ}C;$	60 (42)	Α					
T_j		- 40 + 150	°C					
Inverse / Freewheeling CAL diode								
I _F	T _s = 25 (80) °C;	36 (24)	Α					
$I_{FM} = -I_{CM}$	$t_p < 1 \text{ ms}; T_s = 25 (80) ^{\circ}C;$	72 (48)	Α					
T _j		- 40 + 150	°C					
T _{stg}		- 40 + 125	°C					
T _{sol}	Terminals, 10 s	260	°C					
$V_{\rm isol}$	AC 50 Hz, r.m.s. 1 min. / 1 s	2500 / 3000	V					

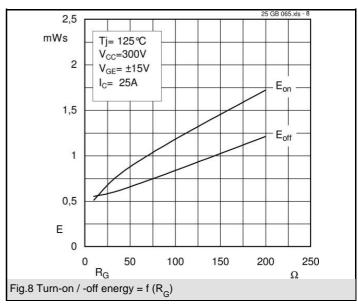
Symbol Cone			Characteristics T _h = 25 °C, unless otherwise speci					
Cyllibol Colli	ditions	min.	typ.	max.	Units			
IGBT								
$V_{CE(sat)}$ $I_C = 20$	0 A, T _i = 25 (125) °C		1,8 (1,9)	2,2 (2,4)	V			
$V_{GE(th)}$ $V_{CE} =$	V_{GE} ; $I_C = A$	4,5	5,5	6,5	V			
$ C_{ies} $ $ V_{CE} $	25 V; V _{GE} = 0 V; 1 MHz		1,6		nF			
R _{th(j-s)} per IG	BBT			1,4	K/W			
per me	odule				K/W			
under	following conditions:							
$t_{d(on)}$ $V_{CC} =$	300 V , V_{GE} = $\pm 15 \text{ V}$		30		ns			
$ t_r $ $ I_C = 2$	5 A, T _j = 125 °C		35		ns			
$t_{d(off)}$ R_{Gon}	$=R_{Goff}=33 \Omega$		200		ns			
t _f			25		ns			
E _{on} + E _{off} Induct	tive load		2,15		mJ			
Inverse / Freewheeling CAL diode								
$V_F = V_{EC}$ $I_F = 25$	5 A; T _i = 25 (125) °C		1,45 (1,4)	1,7 (1,75)	V			
$V_{(TO)}$ $T_j = 12$	25 °C [°] 25 () °C		0,85	0,9	V			
$ \mathbf{r}_{T} ^{2} = 12$	25 () °C		22	32	mΩ			
R _{th(j-s)}				1,7	K/W			
	following conditions:							
I_{RRM} $I_F = 25$	5 A; V _R = 300 V		16		Α			
Q_{rr} dI_F/dt	= -500 A/μs		2		μC			
E_{off} $V_{GE} =$	0 V; T _j = 125 °C		0,25		mJ			
Mechanical dat	a	•						
M1 mount	ting torque			1,5	Nm			
w			13		g			
Case SEMI	TOP® 1		Т3					

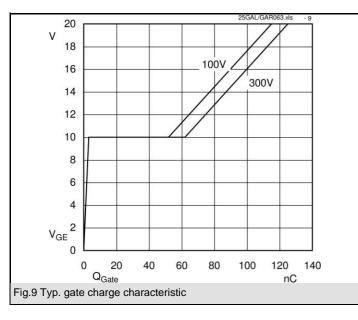


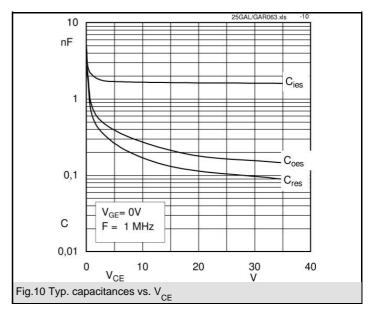


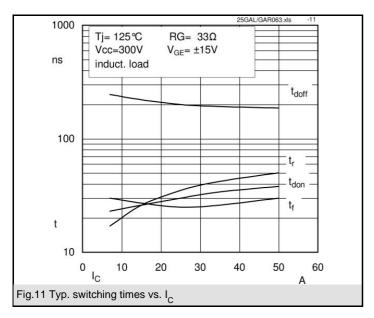


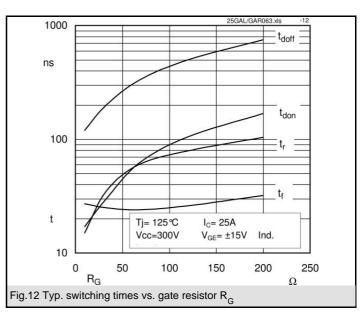


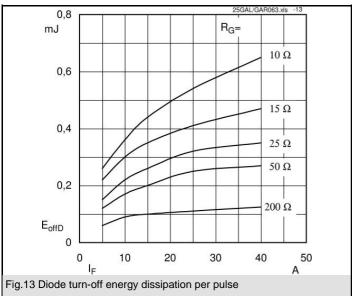


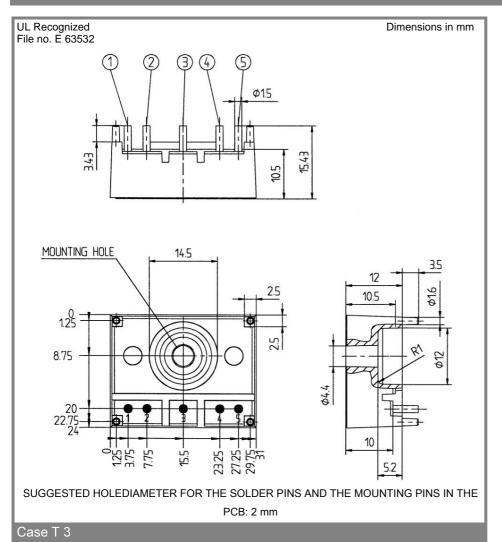


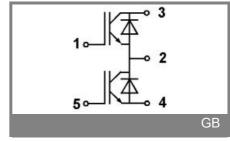












This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

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