

# SK 70 GAL 063



**SEMITOR<sup>®</sup> 2**

## IGBT Module

SK 70 GAR 063

SK 70 GAL 063

Preliminary Data

### Features

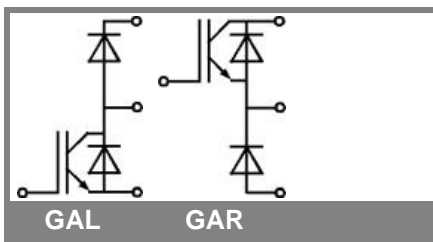
- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonding aluminium oxide ceramic (DBC)
- High short circuit capability
- Low tail current with low temperature dependence

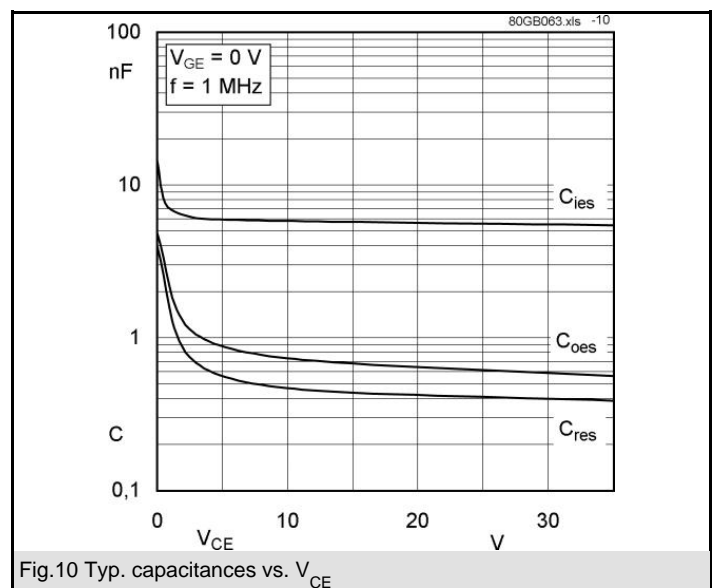
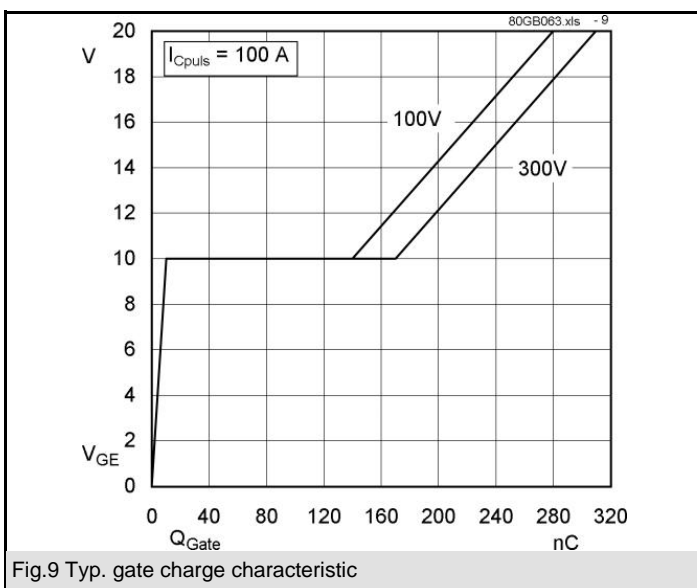
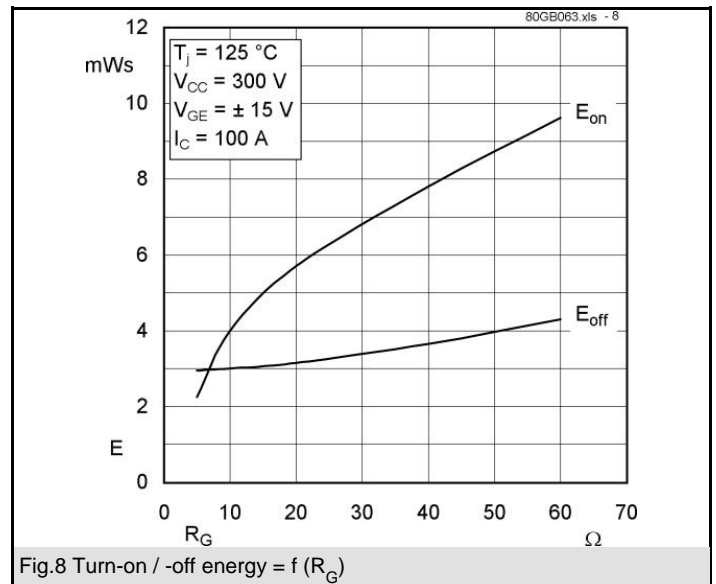
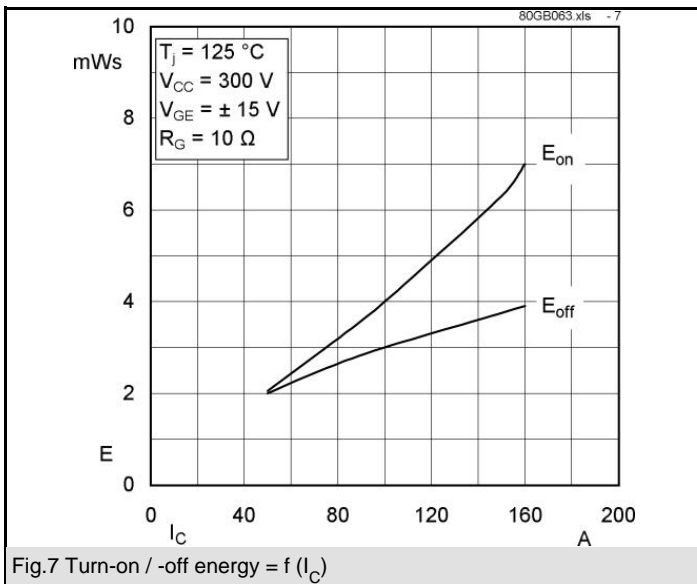
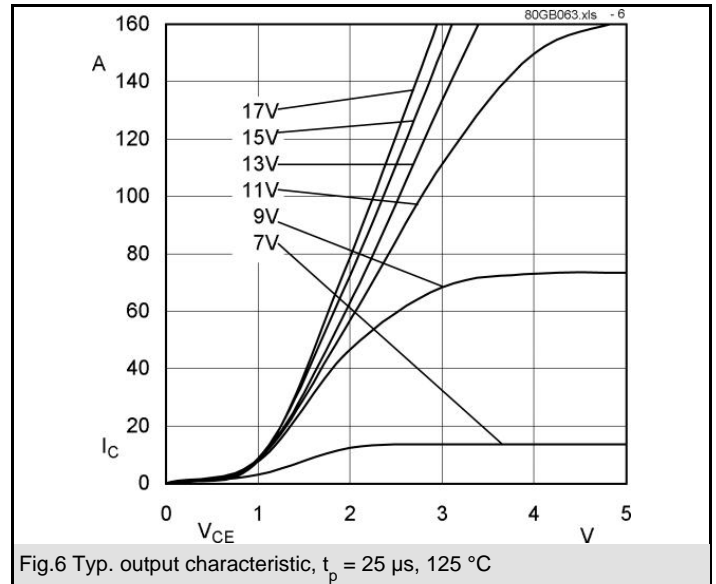
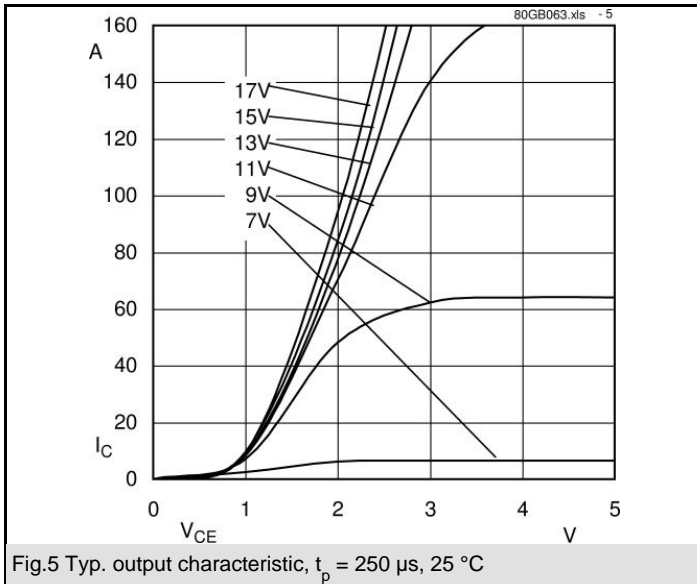
### Typical Applications

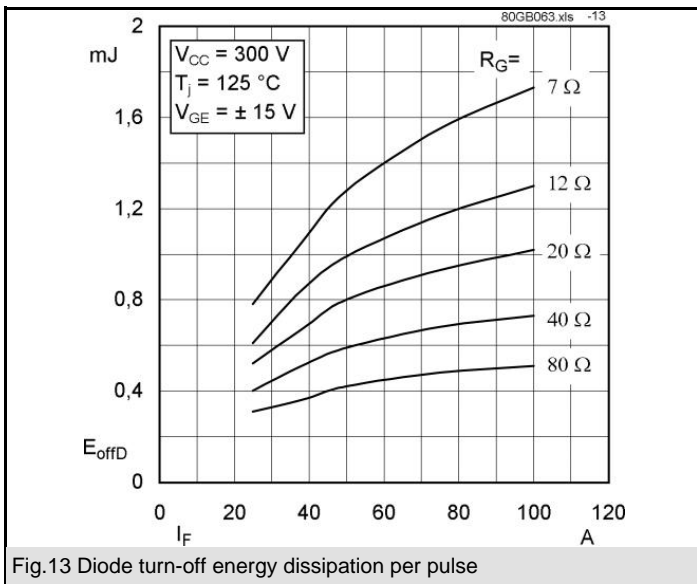
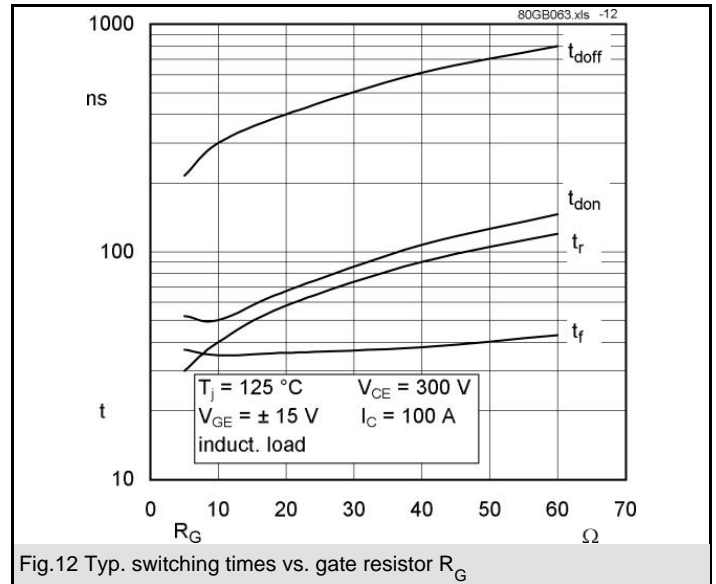
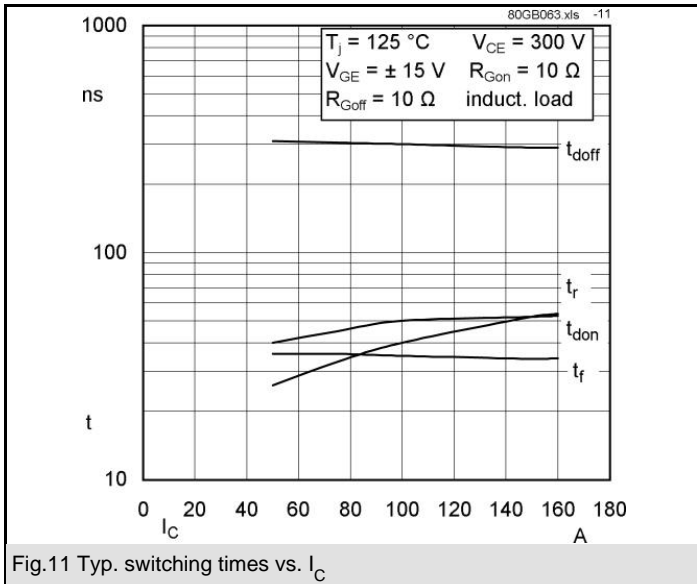
- Switching (not for linear use)
- Inverter
- Switched mode power supplies
- UPS

Absolute Maximum Ratings		$T_s = 25\text{ }^\circ\text{C}$ , unless otherwise specified	
Symbol	Conditions	Values	Units
<b>IGBT</b>			
$V_{CES}$		600	V
$V_{GES}$		$\pm 20$	V
$I_C$	$T_s = 25\text{ (80) }^\circ\text{C}$ ;	81 (57)	A
$I_{CM}$	$t_p < 1\text{ ms}$ ; $T_s = 25\text{ (80) }^\circ\text{C}$ ;	162 (114)	A
$T_j$		- 40 ... + 150	$^\circ\text{C}$
<b>Freewheeling CAL diode</b>			
$I_F$	$T_s = 25\text{ (80) }^\circ\text{C}$ ;	79 (53)	A
$I_{FM} = -I_{CM}$	$t_p < 1\text{ ms}$ ; $T_s = 25\text{ (80) }^\circ\text{C}$ ;	158 (106)	A
$T_j$		- 40 ... + 150	$^\circ\text{C}$
$T_{stg}$		- 40 ... + 125	$^\circ\text{C}$
$T_{sol}$	Terminals, 10 s	260	$^\circ\text{C}$
$V_{isol}$	AC Hz, r.m.s. 1 min. / 1 s	2500 / 3000	V

Characteristics		$T_s = 25\text{ }^\circ\text{C}$ , unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
<b>IGBT</b>					
$V_{CE(sat)}$	$I_C = 60\text{ A}$ , $T_j = 25\text{ (125) }^\circ\text{C}$		1,8 (1,9)		V
$V_{GE(th)}$	$V_{CE} = V_{GE}$ ; $I_C = \text{A}$	4,5	5,5	6,5	V
$C_{res}$	$V_{CE} = 25\text{ V}$ ; $V_{GE} = 0\text{ V}$ ; 1 MHz		5,6		nF
$R_{th(j-s)}$	per IGBT per module			0,6	K/W K/W
$t_{d(on)}$	under following conditions: $V_{CC} = 300\text{ V}$ , $V_{GE} = \pm 15\text{ V}$		45		ns
$t_r$	$I_C = 60\text{ A}$ , $T_j = 125\text{ }^\circ\text{C}$		30		ns
$t_{d(off)}$	$R_{Gon} = R_{Goff} = 10\text{ }^\circ\Omega$		300		ns
$t_f$			35		ns
$E_{on} + E_{off}$	Inductive load		4,7		mJ
<b>Freewheeling CAL diode</b>					
$V_F = V_{EC}$	$I_F = 60\text{ A}$ ; $T_j = 25\text{ (125) }^\circ\text{C}$		1,4 (1,3)		V
$V_{(TO)}$	$T_j = 125\text{ }^\circ\text{C}$		0,85	0,9	V
$r_T$	$T_j = 125\text{ ( ) }^\circ\text{C}$		6,5	11	m $\Omega$
$R_{th(j-s)}$				0,9	K/W
$I_{RRM}$	under following conditions: $I_F = 60\text{ A}$ ; $V_R = 300\text{ V}$		90		A
$Q_{rr}$	$di_F/dt = -3000\text{ A}/\mu\text{s}$		7		$\mu\text{C}$
$E_{off}$	$V_{GE} = 0\text{ V}$ ; $T_j = 125\text{ }^\circ\text{C}$		1,2		mJ
<b>Mechanical data</b>					
M1	mounting torque			2	Nm
w			19		g
Case	SEMITOR <sup>®</sup> 2		T 18		



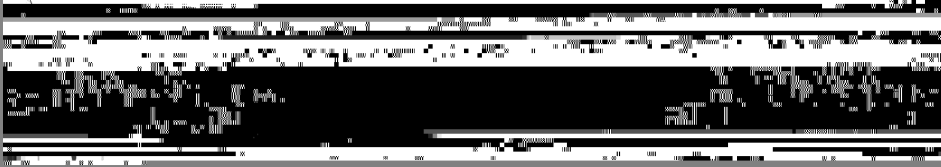




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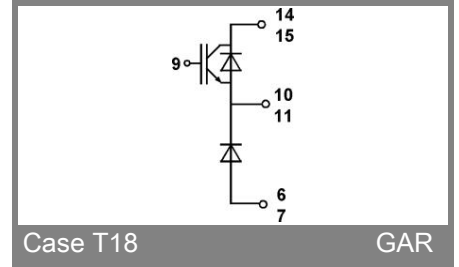
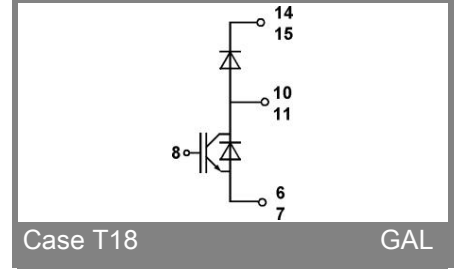
UL Recognized  
File no. E 63532

Dimensions in mm



SUGGESTED HOLEDIAMETER FOR THE SOLDER PINS AND THE MOUNTING PINS IN THE  
PCB: 2 mm

Case T18



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

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