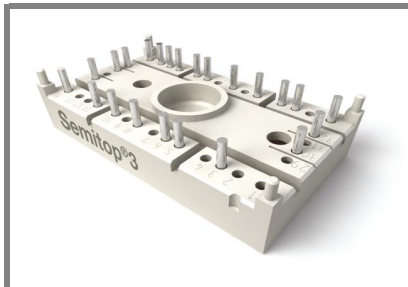


# SK35GD126ET



SEMISTOP® 3

## IGBT Module

SK35GD126ET

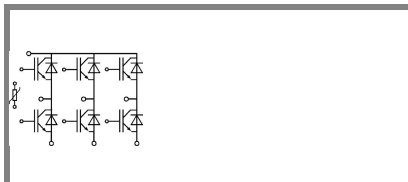
Preliminary Data

### Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- Ultrafast NPT technology IGBT
- CAL technology FWD
- Integrated NTC temperature sensor

### Typical Applications

- Inverter

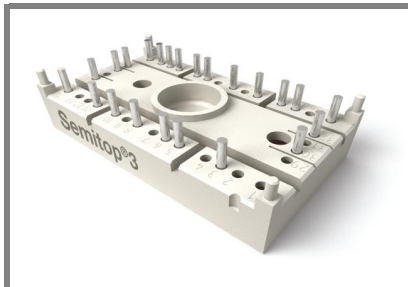


GD-ET

Absolute Maximum Ratings		$T_s = 25^\circ\text{C}$ , unless otherwise specified		
Symbol	Conditions	Values		Units
<b>IGBT</b>				
$V_{CES}$	$T_j = 25^\circ\text{C}$	1200		V
$I_C$	$T_j = 150^\circ\text{C}$	$T_s = 25^\circ\text{C}$	40	A
		$T_s = 80^\circ\text{C}$	32	A
$I_{CRM}$	$I_{CRM} = 2 \times I_{Cnom}$	70		A
$V_{GES}$		$\pm 20$		V
$t_{psc}$	$V_{CC} = 600\text{ V}; V_{GE} \leq 20\text{ V}; T_j = 125^\circ\text{C}$ $V_{CES} < 1200\text{ V}$	10		$\mu\text{s}$
<b>Inverse Diode</b>				
$I_F$	$T_j = 150^\circ\text{C}$	$T_s = 25^\circ\text{C}$	34	A
		$T_s = 80^\circ\text{C}$	23	A
$I_{FRM}$	$I_{FRM} = 2 \times I_{Fnom}$	70		A
<b>Module</b>				
$I_{t(RMS)}$				A
$T_{vj}$		-40 ... +150		$^\circ\text{C}$
$T_{stg}$		-40 ... +125		$^\circ\text{C}$
$V_{isol}$	AC, 1 min.	2500		V

Characteristics		$T_s = 25^\circ\text{C}$ , unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
<b>IGBT</b>					
$V_{GE(th)}$	$V_{GE} = V_{CE}; I_C = 1,5\text{ mA}$	5	5,8	6,5	V
$I_{CES}$	$V_{GE} = 0\text{ V}, V_{CE} = V_{CES}$	$T_j = 25^\circ\text{C}$			mA
		$T_j = 125^\circ\text{C}$			mA
$I_{GES}$	$V_{CE} = 0\text{ V}, V_{GE} = 20\text{ V}$	$T_j = 25^\circ\text{C}$	600		nA
		$T_j = 125^\circ\text{C}$			nA
$V_{CE0}$		$T_j = 25^\circ\text{C}$	1	1,2	V
		$T_j = 125^\circ\text{C}$	0,9		V
$r_{CE}$	$V_{GE} = 15\text{ V}$	$T_j = 25^\circ\text{C}$	20	26	m $\Omega$
		$T_j = 125^\circ\text{C}$	31		m $\Omega$
$V_{CE(sat)}$	$I_{Cnom} = 35\text{ A}, V_{GE} = 15\text{ V}$	$T_j = 25^\circ\text{C}_{chiplev.}$	1,7	2,1	V
		$T_j = 125^\circ\text{C}_{chiplev.}$	2		V
$C_{ies}$	$V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}$	$f = 1\text{ MHz}$	2,5		nF
$C_{oes}$			0,132		nF
$C_{res}$			0,115		nF
$t_{d(on)}$	$R_{Gon} = 15\ \Omega$	$V_{CC} = 600\text{ V}$	85		ns
$t_r$			30		ns
$E_{on}$	$R_{Goff} = 15\ \Omega$	$I_{Cnom} = 35\text{ A}$	4,6		mJ
$t_{d(off)}$			430		ns
$t_f$			90		ns
$E_{off}$		$V_{GE} = \pm 15\text{ V}$	4,3		mJ
$R_{th(j-s)}$			per IGBT		1,05

# SK35GD126ET



SEMITOP® 3

## IGBT Module

SK35GD126ET

Preliminary Data

### Features

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- Ultrafast NPT technology IGBT
- CAL technology FWD
- Integrated NTC temperature sensor

### Typical Applications

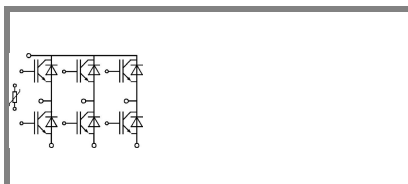
- Inverter

### Characteristics

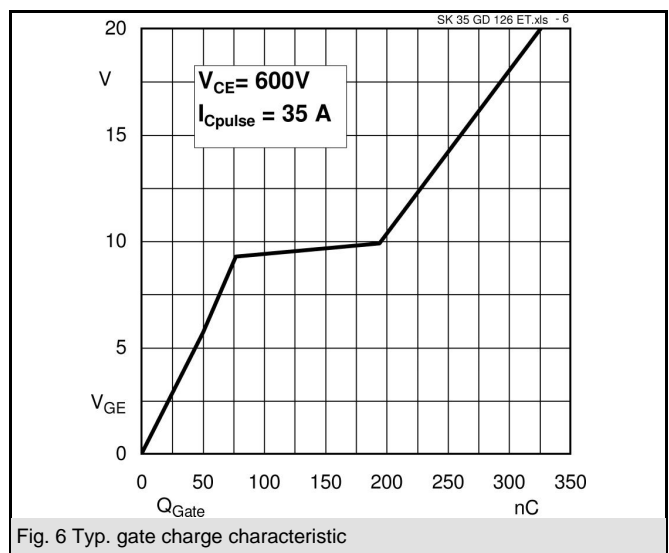
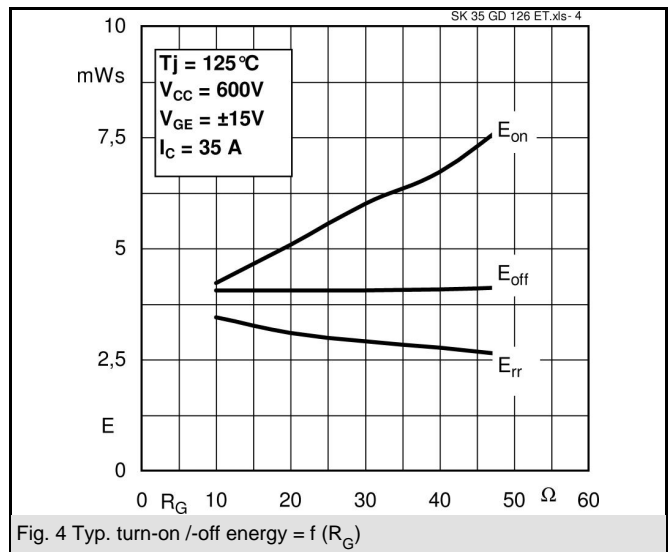
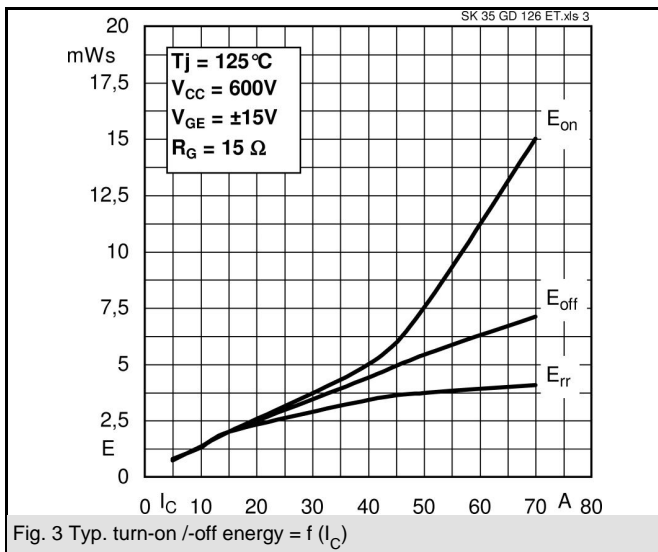
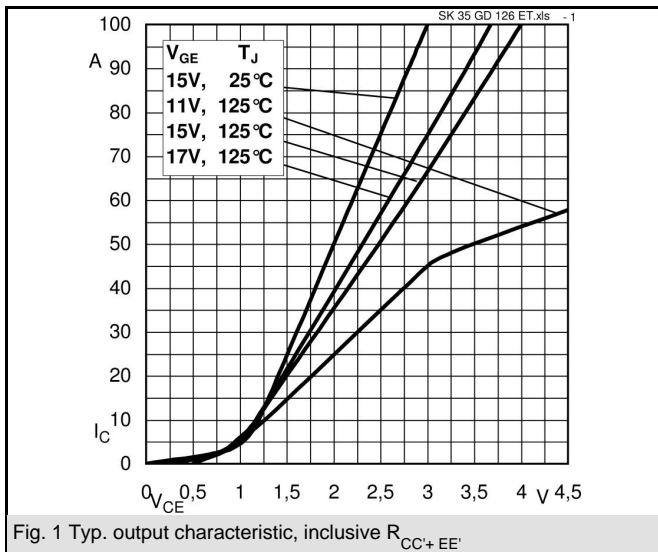
Symbol	Conditions	min.	typ.	max.	Units	
<b>Inverse Diode</b>						
$V_F = V_{EC}$	$I_{Fnom} = 35 \text{ A}; V_{GE} = 0 \text{ V}$		$T_j = 25 \text{ }^\circ\text{C}_{chiplev.}$	1,8	2,1	V
			$T_j = 125 \text{ }^\circ\text{C}_{chiplev.}$	1,8		V
$V_{F0}$			$T_j = 25 \text{ }^\circ\text{C}$	1	1,1	V
			$T_j = 125 \text{ }^\circ\text{C}$	0,8		V
$r_F$			$T_j = 25 \text{ }^\circ\text{C}$	23	29	mΩ
			$T_j = 125 \text{ }^\circ\text{C}$	31		mΩ
$I_{RRM}$	$I_{Fnom} = 35 \text{ A}$	$T_j = 125 \text{ }^\circ\text{C}$		43		A
$Q_{rr}$	$di/dt = -1330 \text{ A}/\mu\text{s}$			7		μC
$E_{rr}$	$V_{CC} = 600\text{V}$			2,9		mJ
$R_{th(j-s)D}$	per diode			1,7		K/W
$M_s$	to heat sink	2,25		2,5		Nm
w			30			g
<b>Temperature sensor</b>						
$R_{100}$	$T_s = 100^\circ\text{C} (R_{25} = 5\text{k}\Omega)$		493±5%			Ω

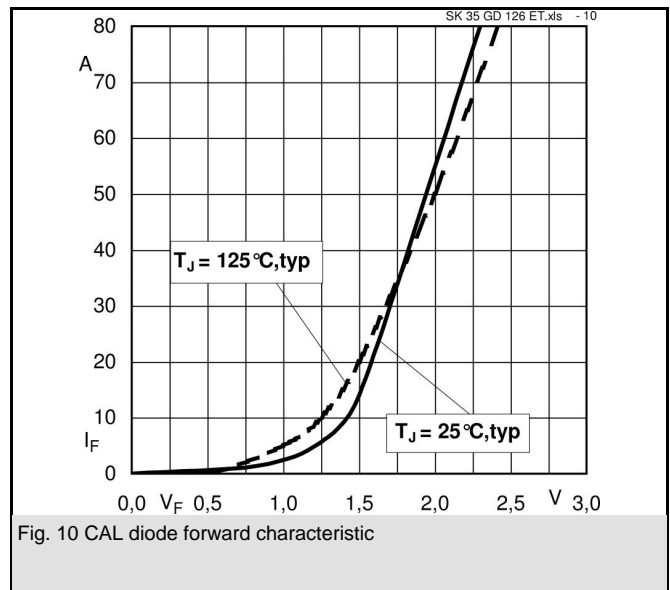
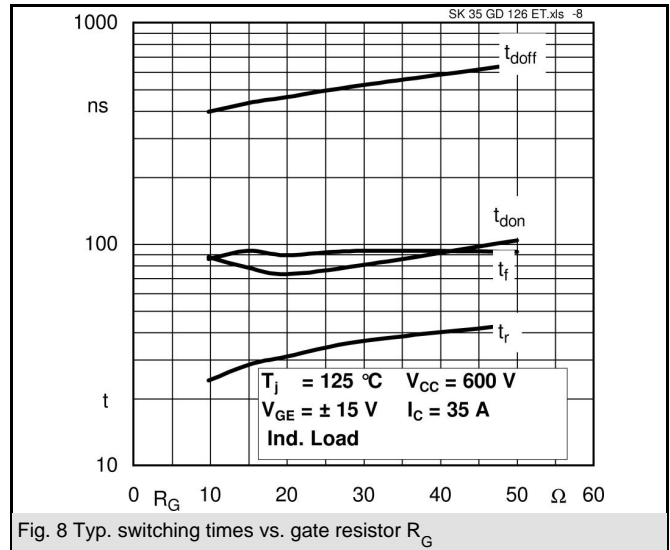
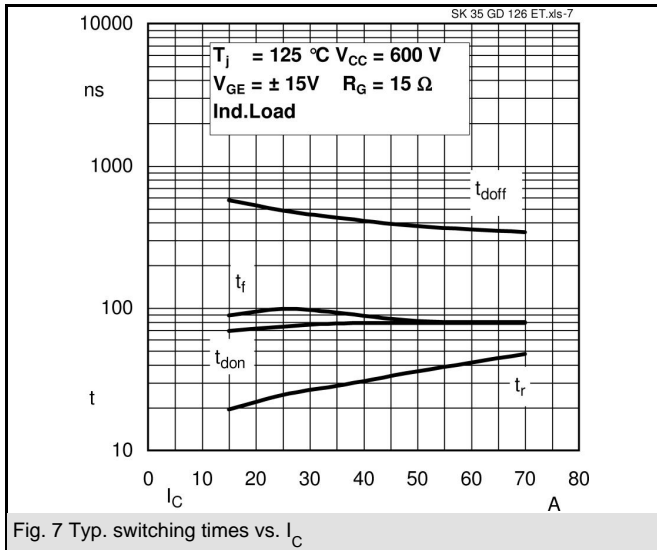
This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

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



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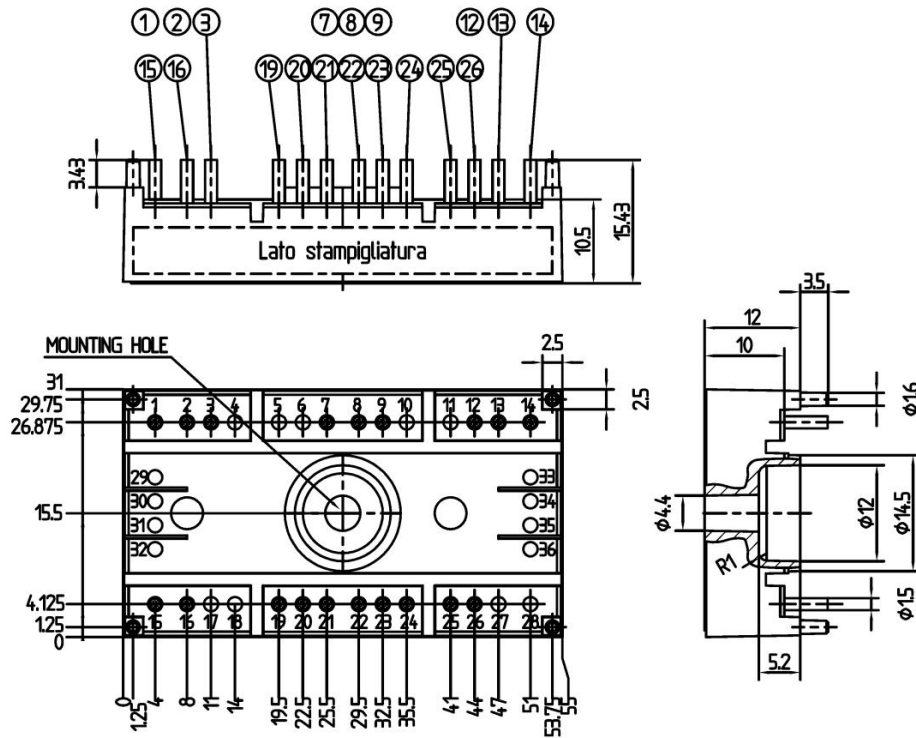




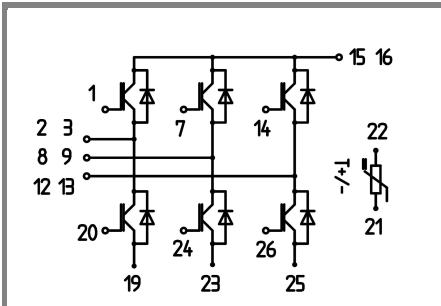
# SK35GD126ET

UL recognized file

no. E 63 532



Case T52 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins: 2mm)



Case T 52

GD-ET