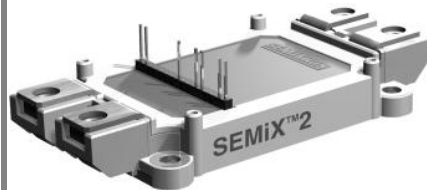


SEMiX 302GB066HD

查询"SEMiX302GB066HD" 07%供应商



SEMiX[®] 2

Trench IGBT Modules

SEMiX 302GB066HD

Preliminary Data

Features

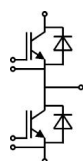
- Homogeneous Si
- Trench = Trenchgate technology
- $V_{CE(sat)}$ with positive temperature coefficient

Typical Applications

- Matrix Converter
- Resonant Inverter
- Current Source Inverter

Remarks

- Case temperature limited to $T_C = 125^\circ\text{C}$ max.
- Product reliability results are valid for $T_J = 150^\circ\text{C}$
- use of soft RG necessary take care of over-voltage caused by stray inductance
- not for new design



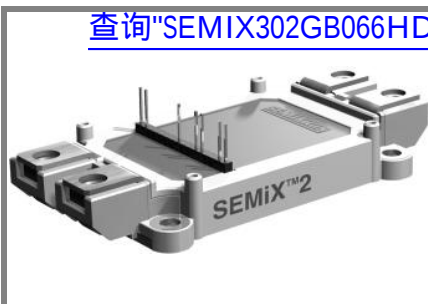
GB

07/供應商

Absolute Maximum Ratings		T _{case} = 25°C, unless otherwise specified		
Symbol	Conditions	Values		Units
IGBT				
V _{CES}	T _j = 25 °C	600		V
I _C	T _j = 175 °C	T _c = 25 °C	380	A
		T _c = 80 °C	285	A
I _{CRM}	I _{CRM} =2xI _{Cnom}	600		A
V _{GES}		± 20		V
t _{psc}	V _{CC} = 360 V; V _{GE} ≤ 15 V; T _j = 150 °C V _{CES} < 600 V	6		µs
Inverse Diode				
I _F	T _j = 175 °C	T _c = 25 °C	420	A
		T _c = 80 °C	310	A
I _{FRM}	I _{FRM} =2xI _{Fnom}	600		A
I _{FSM}	t _p = 10 ms; sin. T _j = 25 °C	1400		A
Module				
I _{t(RMS)}		600		A
T _{vj}		- 40 ... + 175		°C
T _{stg}		- 40 ... + 125		°C
V _{isol}	AC, 1 min.	4000		V

Characteristics		T _{case} = 25°C, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT					
V _{GE(th)}	V _{GE} = V _{CE} , I _C = 4,8 mA		5,8		V
I _{CES}	V _{GE} = 0 V, V _{CE} = V _{CES} T _j = 25 °C			0,45	mA
V _{CE0}	T _j = 25 °C T _j = 150 °C		0,9	1	V
			0,85	0,9	V
r _{CE}	V _{GE} = 15 V T _j = 25°C T _j = 150°C		1,8	3	mΩ
			2,8	4	mΩ
V _{CE(sat)}	I _{Cnom} = 300 A, V _{GE} = 15 V T _j = 25°C _{chiplev.} T _j = 150°C _{chiplev.}		1,45	1,9	V
			1,7	2,1	V
C _{ies}	V _{CE} = 25, V _{GE} = 0 V f = 1 MHz		18,5		nF
C _{oes}			1,2		nF
C _{res}			0,55		nF
Q _G	V _{GE} = -8 ... +15V		2400		nC
t _{d(on)}	R _{Gon} = 5,1 Ω	V _{CC} = 300V I _{Cnom} = 300A T _j = 150 °C	110		ns
t _r			85		ns
E _{on}	11,5			mJ	
t _{d(off)}	R _{Goff} = 5,1 Ω		820		ns
t _f			70		ns
E _{off}		15		mJ	
R _{th(j-c)}	per IGBT			0,16	K/W

查询"SEMIX302GB066HD" 0711供应商



SEMiX® 2

Trench IGBT Modules

SEMiX 302GB066HD

Preliminary Data

Features

- Homogeneous Si
- Trench = Trenchgate technology
- $V_{CE(sat)}$ with positive temperature coefficient

Typical Applications

- Matrix Converter
- Resonant Inverter
- Current Source Inverter

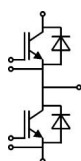
Remarks

- Case temperatur limited to $T_C=125^\circ\text{C}$ max.
- Product reliability results are valid for $T_j=150^\circ\text{C}$
- use of soft RG necessary
- take care of over-voltage caused by stray inductance
- not for new design

Characteristics					
Symbol	Conditions	min.	typ.	max.	Units
Inverse Diode					
$V_F = V_{EC}$	$I_{Fnom} = 300 \text{ A}; V_{GE} = 0 \text{ V}$				
	$T_j = 25^\circ\text{C}_{chiplev.}$		1,4	1,6	V
	$T_j = 150^\circ\text{C}_{chiplev.}$		1,4	1,6	V
V_{F0}	$T_j = 25^\circ\text{C}$		1	1,1	V
	$T_j = 150^\circ\text{C}$		0,85	0,95	V
r_F	$T_j = 25^\circ\text{C}$		1,3	1,7	mΩ
	$T_j = 150^\circ\text{C}$		1,8	2,2	mΩ
I_{RRM}	$I_{Fnom} = 300 \text{ A}$		240		A
Q_{rr}	$di/dt = 3600 \text{ A}/\mu\text{s}$		35		μC
E_{rr}	$V_{GE} = -8 \text{ V}; V_{CC} = 300 \text{ V}$		7,5		mJ
$R_{th(j-c)D}$	per diode			0,19	K/W
Module					
L_{CE}			18		nH
$R_{CC'+EE'}$	res., terminal-chip	$T_{case} = 25^\circ\text{C}$	0,7		mΩ
		$T_{case} = 125^\circ\text{C}$	1		mΩ
$R_{th(c-s)}$	per module		0,045		K/W
M_s	to heat sink (M5)		3	5	Nm
M_t	to terminals (M6)		2,5	5	Nm
w				250	g
Temperature sensor					
R_{100}	$T_c = 100^\circ\text{C}$ ($R_{25} = 5 \text{ k}\Omega$)		0,493±5%		kΩ
$B_{100/125}$	$R(T) = R_{100} \exp[B_{100/125} (1/T - 1/T_{100})]$; $T[\text{K}]; B$		3550±2%		K

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.



GB

查询"SEMiX302GB066HD_07"供应商

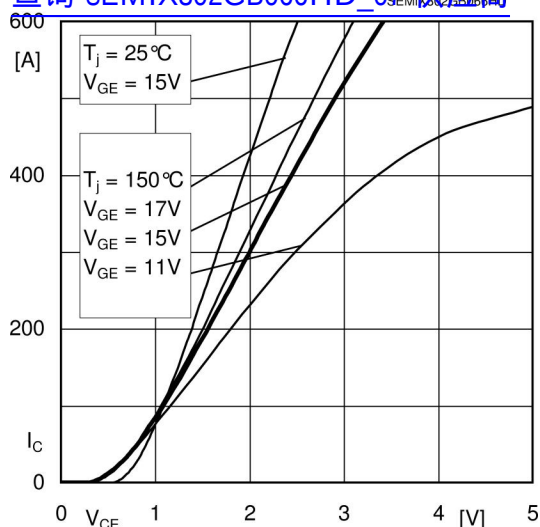


Fig. 1 Typ. output characteristic, inclusive $R_{CC'+EE'}$

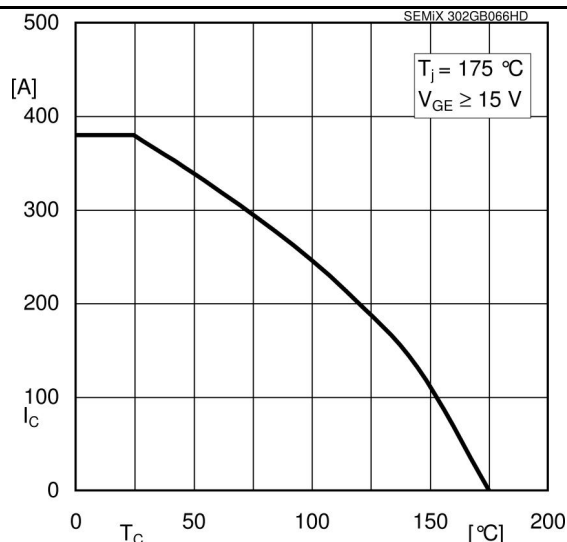


Fig. 2 Rated current vs. temperature $I_C = f(T_C)$

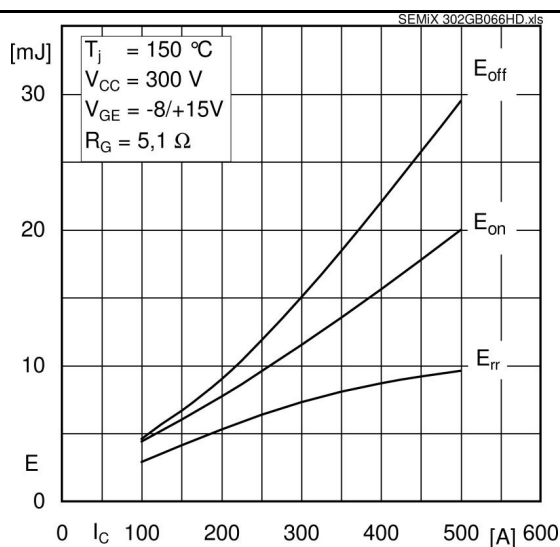


Fig. 3 Typ. turn-on /off energy = $f(I_C)$

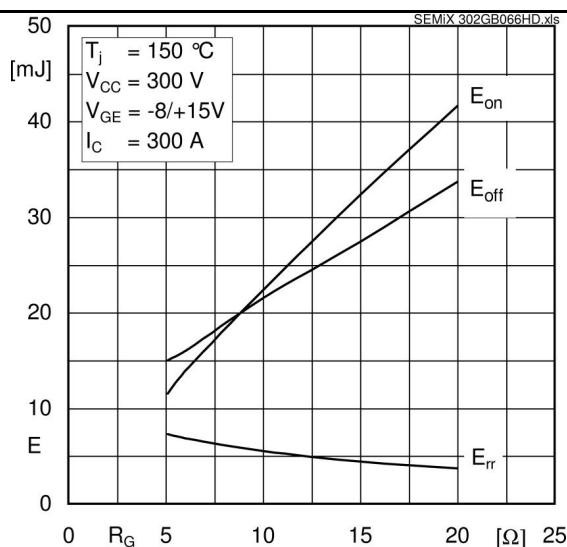


Fig. 4 Typ. turn-on /off energy = $f(R_G)$

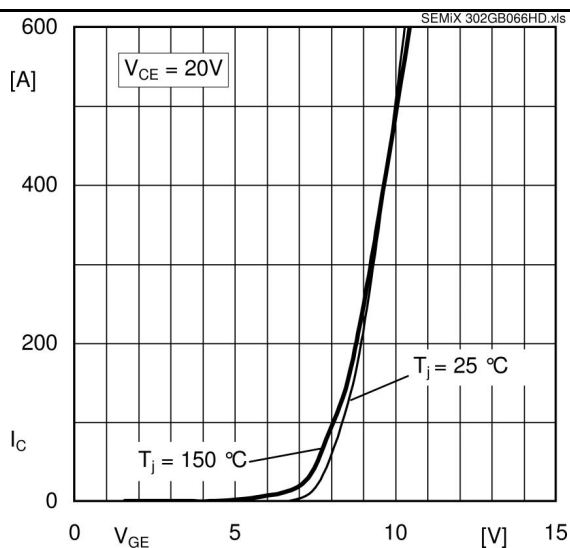


Fig. 5 Typ. transfer characteristic

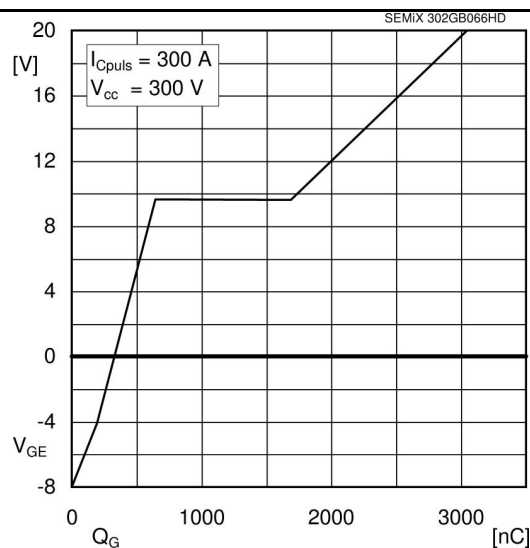
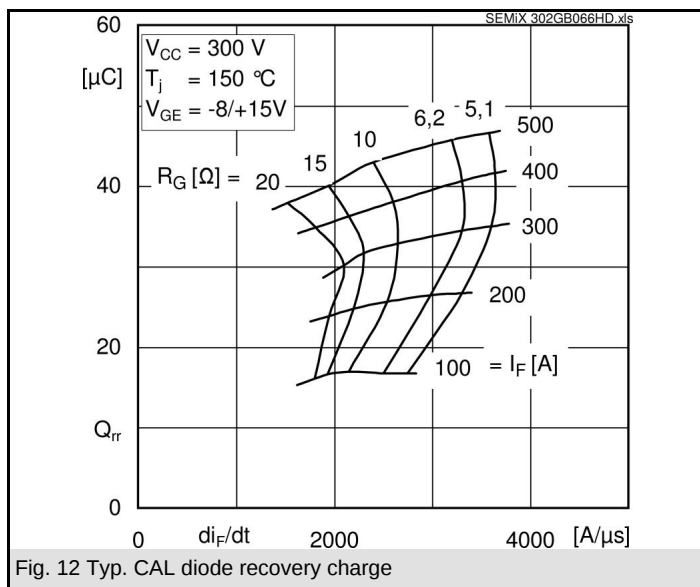
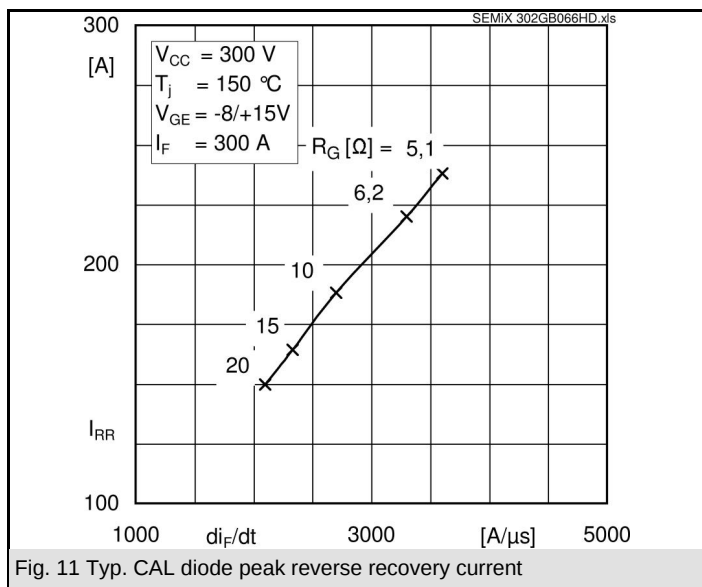
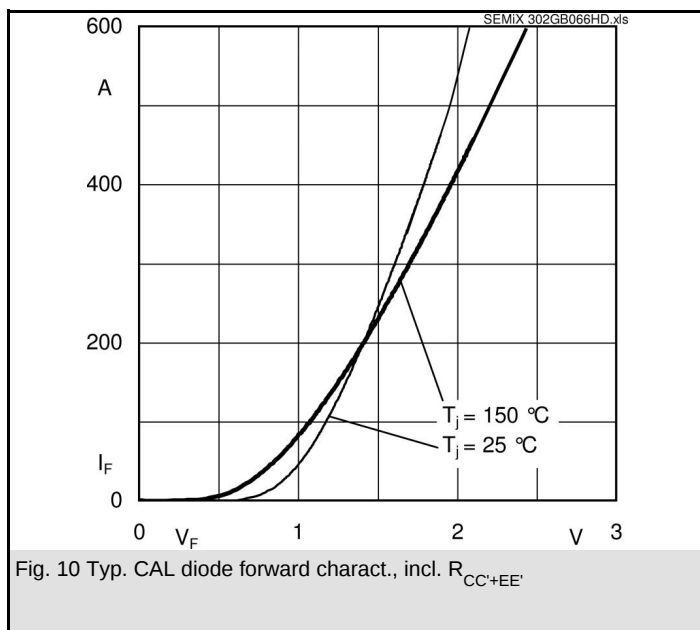
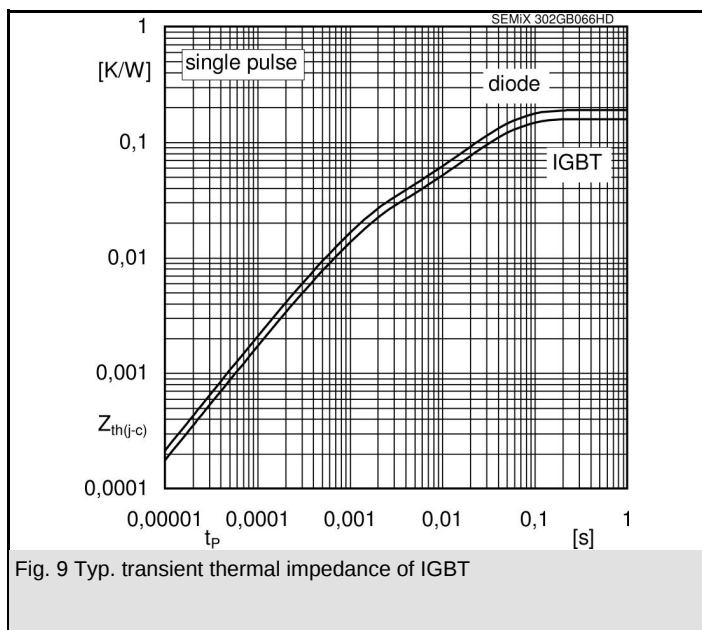
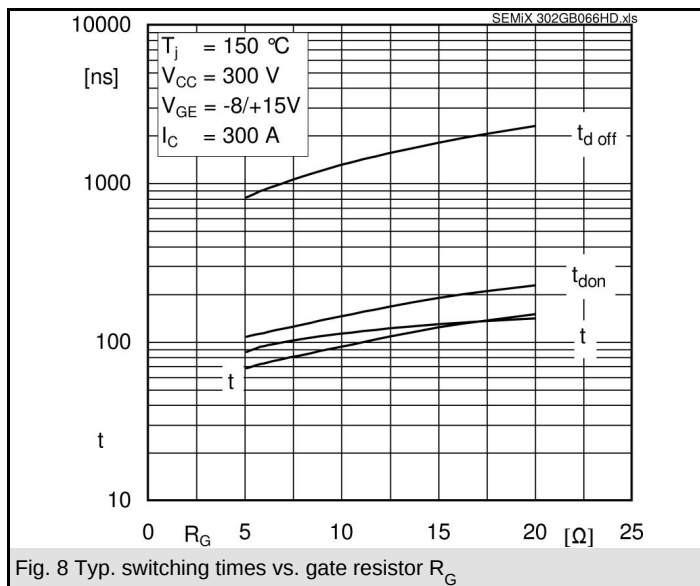
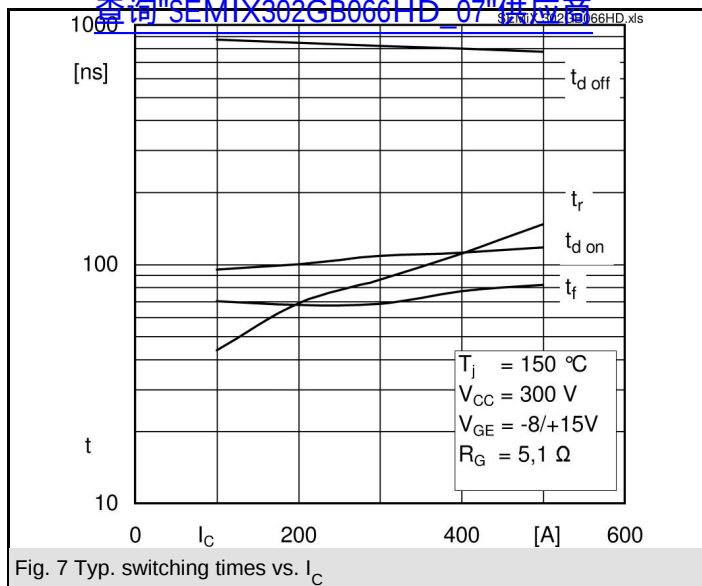


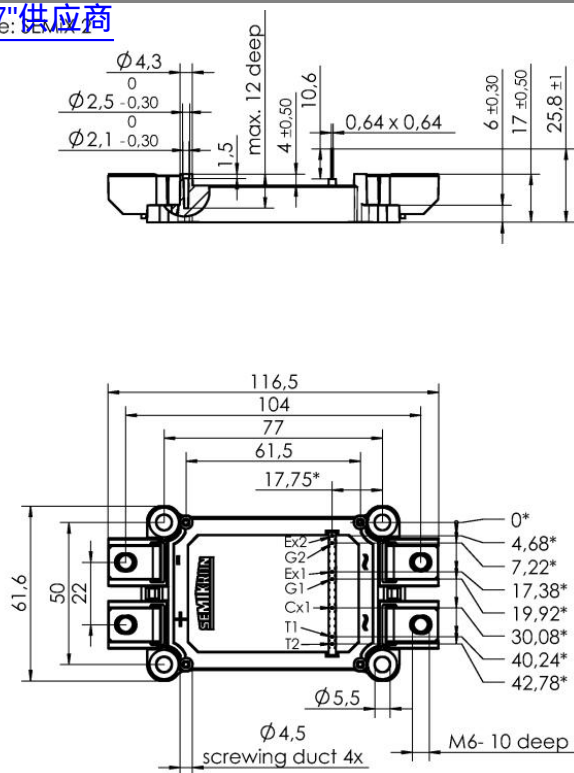
Fig. 6 Typ. gate charge characteristic

查询"SEMiX302GB066HD_07"供应商



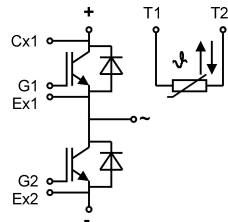
[查询"SEMIX302GB066HD_07"供应商](#)

Case: SEMiX 1



*= all measures with $\phi 0,5$

Case SEMiX 2



Pinout

GB