

SEMiX 452GB176HDs

查询"SEMIX452GB176HDs"供应商



SEMiX[®] 2s

Trench IGBT Modules

SEMiX 452GB176HDs

Preliminary Data

Features

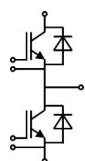
- Homogeneous Si
- Trench = Trenchgate technology
- $V_{CE(sat)}$ with positive temperature coefficient
- High short circuit capability

Typical Applications

- AC inverter drives
- UPS
- Electronic welders

Remarks

- short circuit capability is tested @ $V_{CC}=1000V$ (all other static parameters are tested @ $V_{CC}=1200V$)



GB

Absolute Maximum Ratings		$T_{case} = 25^{\circ}C$, unless otherwise specified			
Symbol	Conditions	Values			Units
IGBT					
V_{CES}	$T_j = 25^{\circ}C$	1700			V
I_C	$T_j = 150^{\circ}C$	$T_c = 25^{\circ}C$	435		A
		$T_c = 80^{\circ}C$	310		A
I_{CRM}	$I_{CRM} = 2 \times I_{Cnom}$	600			A
V_{GES}		± 20			V
t_{psc}	$V_{CC} = 1200V$; $V_{GE} \leq 20V$; $T_j = 125^{\circ}C$ $V_{CES} < 1700V$	10			μs
Inverse Diode					
I_F	$T_j = 150^{\circ}C$	$T_c = 25^{\circ}C$	385		A
		$T_c = 80^{\circ}C$	260		A
I_{FRM}	$I_{FRM} = 2 \times I_{Fnom}$	600			A
I_{FSM}	$t_p = 10ms$; sin.	$T_j = 25^{\circ}C$	2000		A
Module					
$I_{t(RMS)}$		600			A
T_{vj}		- 40 ... + 150			$^{\circ}C$
T_{stg}		- 40 ... + 125			$^{\circ}C$
V_{isol}	AC, 1 min.	4000			V

Characteristics		$T_{case} = 25^{\circ}C$, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT					
$V_{GE(th)}$	$V_{GE} = V_{CE}$; $I_C = 12mA$	5,2	5,8	6,4	V
I_{CES}	$V_{GE} = 0V$; $V_{CE} = V_{CES}$	$T_j = 25^{\circ}C$	0,45		mA
		$T_j = 125^{\circ}C$			mA
V_{CE0}		$T_j = 25^{\circ}C$	1	1,2	V
		$T_j = 125^{\circ}C$	0,9	1,1	V
r_{CE}	$V_{GE} = 15V$	$T_j = 25^{\circ}C$	3,3	4,2	m Ω
		$T_j = 125^{\circ}C$	5,2	6	m Ω
$V_{CE(sat)}$	$I_{Cnom} = 300A$; $V_{GE} = 15V$	$T_j = 25^{\circ}C_{chiplev.}$	2	2,45	V
		$T_j = 125^{\circ}C_{chiplev.}$	2,45	2,9	V
C_{ies}		26,4			nF
C_{oes}	$V_{CE} = 25$; $V_{GE} = 0V$	1,1			nF
C_{res}	$f = 1MHz$	0,88			nF
Q_G		2800			nC
$t_{d(on)}$	$R_{Gon} = 4\Omega$	$V_{CC} = 1200V$ $I_{Cnom} = 300A$	340		ns
t_r			75		ns
E_{on}	$R_{Goff} = 4\Omega$	$T_j = 125^{\circ}C$	180		mJ
$t_{d(off)}$			900		ns
t_f			105		ns
E_{off}			110		mJ
$R_{th(j-c)}$	per IGBT	0,073			K/W

SEMiX 452GB176HDs

查询"SEMIX452GB176HDs" 供应商



SEMiX[®] 2s

Trench IGBT Modules

SEMiX 452GB176HDs

Preliminary Data

Features

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

Typical Applications

- AC inverter drives
- UPS
- Electronic welders

Remarks

- short circuit capability is tested @ $V_{CC}=1000V$ (all other static parameters are tested @ $V_{CC}=1200V$)



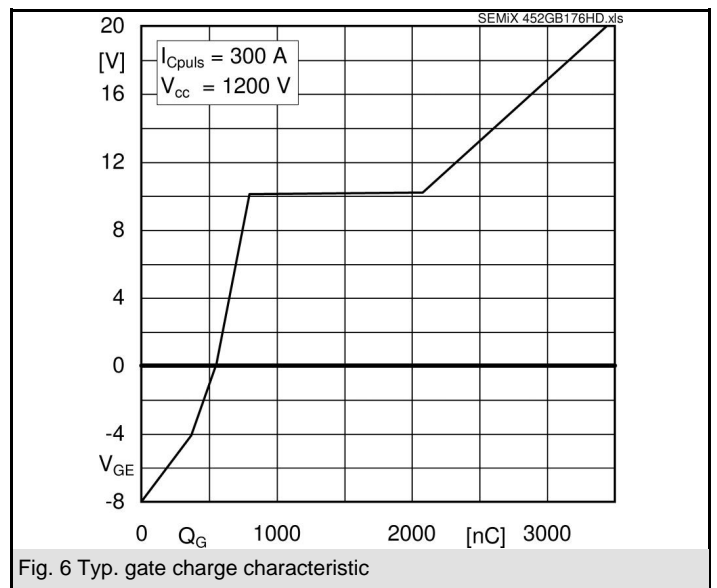
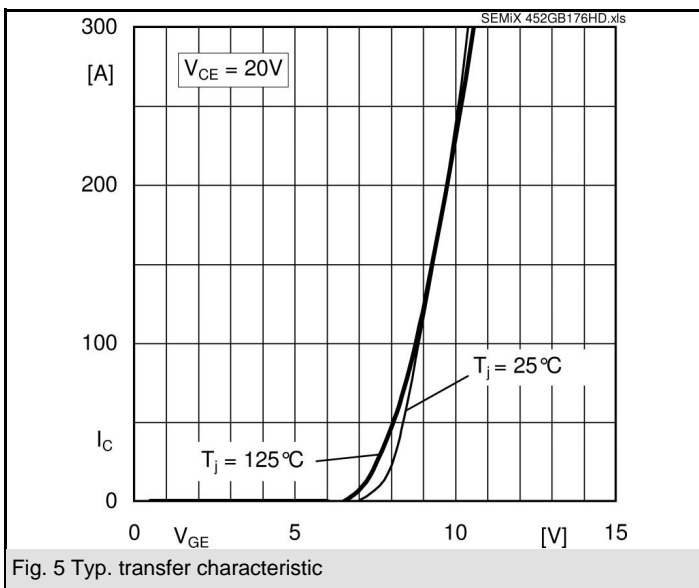
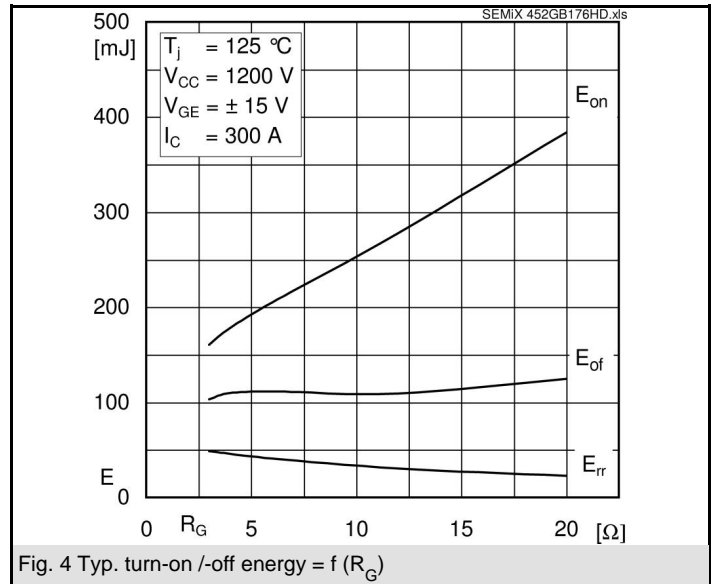
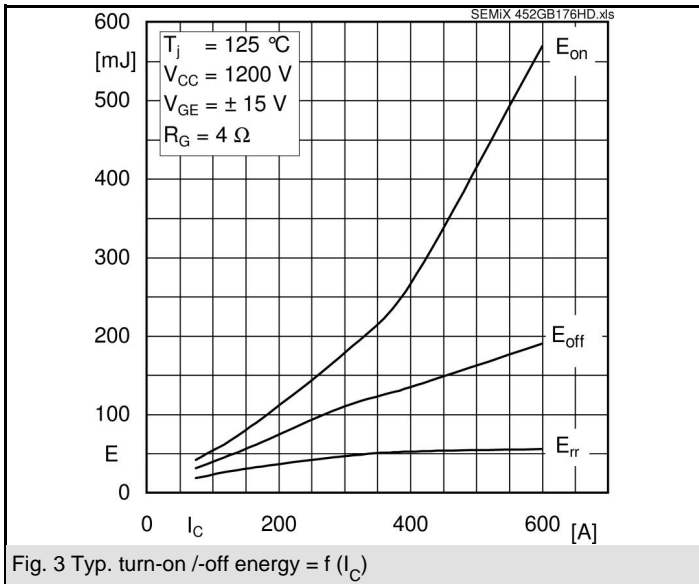
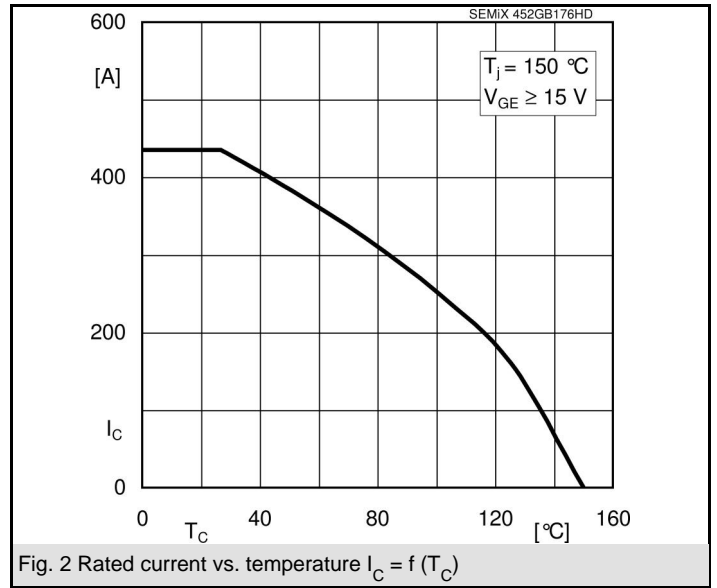
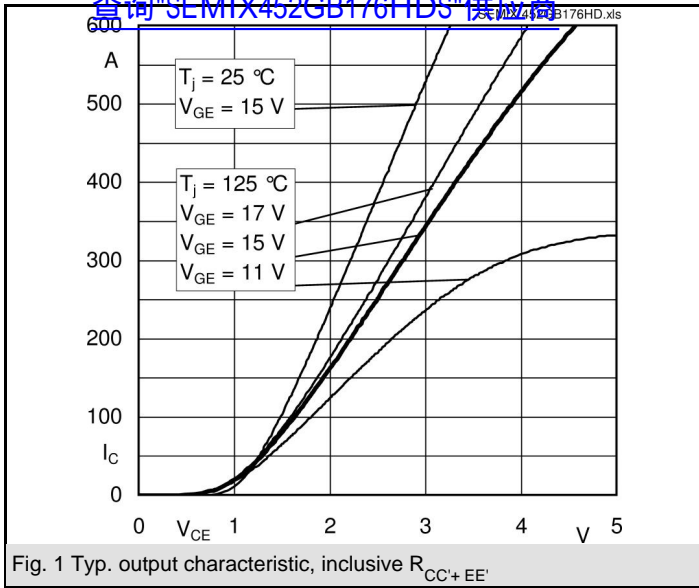
GB

Characteristics		min.	typ.	max.	Units
$V_F = V_{EC}$	$I_{Fnom} = 300 A; V_{GE} = 0 V$ $T_j = 25 ^\circ C_{chiplev.}$ $T_j = 125 ^\circ C_{chiplev.}$		1,7 1,7	1,9 1,9	V V
V_{F0}	$T_j = 25 ^\circ C$ $T_j = 125 ^\circ C$		1,1 0,9	1,3 1,1	V V
r_F	$T_j = 25 ^\circ C$ $T_j = 125 ^\circ C$		2 2,7		mΩ mΩ
I_{RRM} Q_{rr} E_{rr}	$I_{Fnom} = 300 A$ $di/dt = 4500 A/\mu s$ $V_{GE} = -15 V; V_{CC} = 1200 V$ $T_j = 125 ^\circ C$		360 85 46		A μC mJ
$R_{th(j-c)D}$	per diode			0,15	K/W
Module					
L_{CE}			18		nH
R_{CC+EE}	res., terminal-chip $T_{case} = 25 ^\circ C$ $T_{case} = 125 ^\circ C$		0,7 1		mΩ 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}	$T_c = 100 ^\circ C (R_{25} = 5 k\Omega)$		0,493±5%		kΩ
$B_{100/125}$	$R(T) = R_{100} \exp[B_{100/125} (1/T - 1/T_{100})]$; $T[K]; B$		3550±2%		K

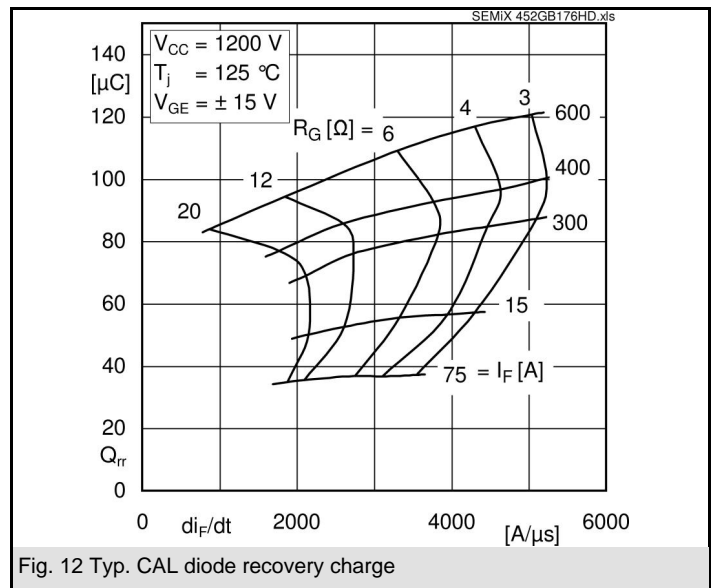
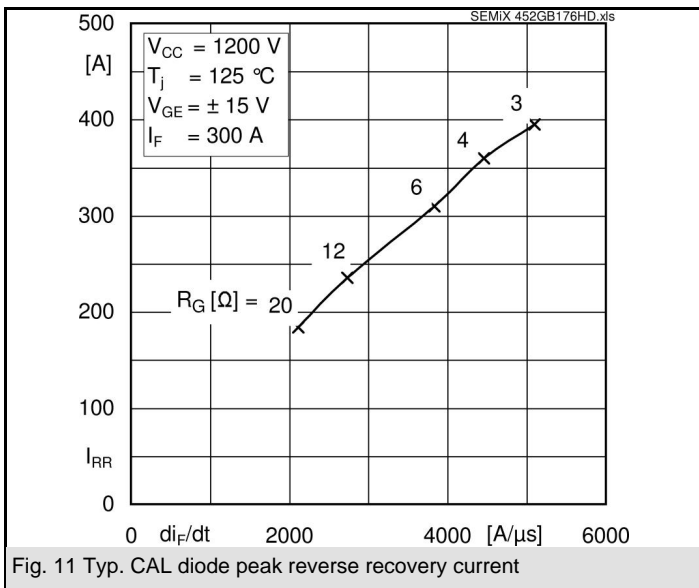
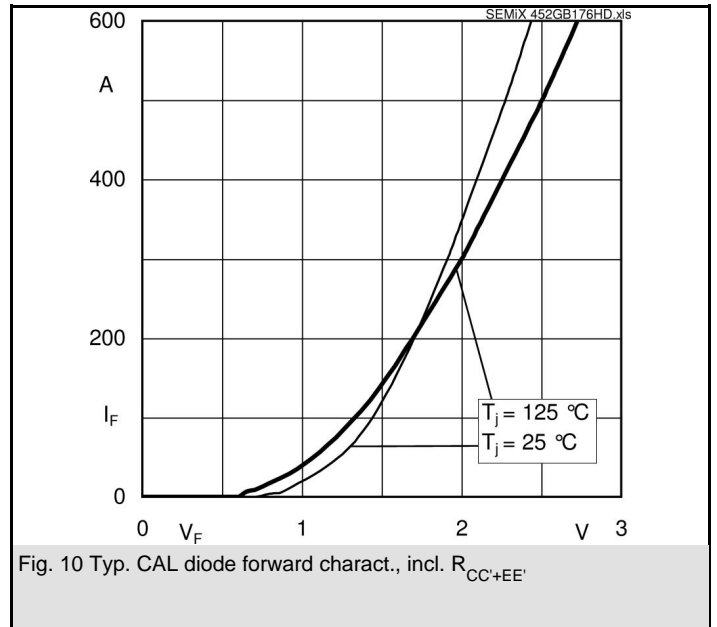
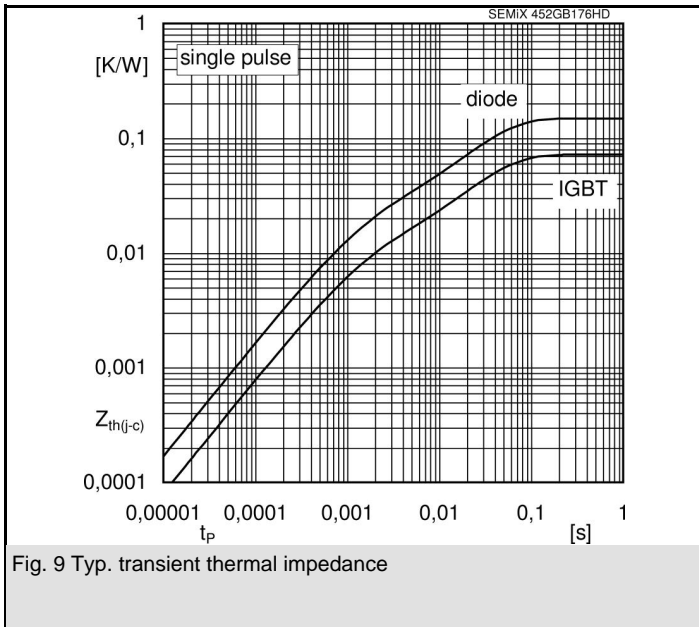
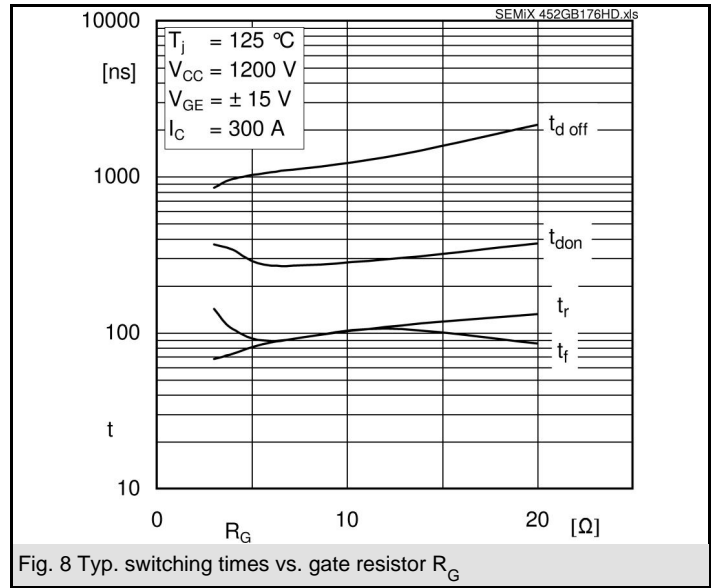
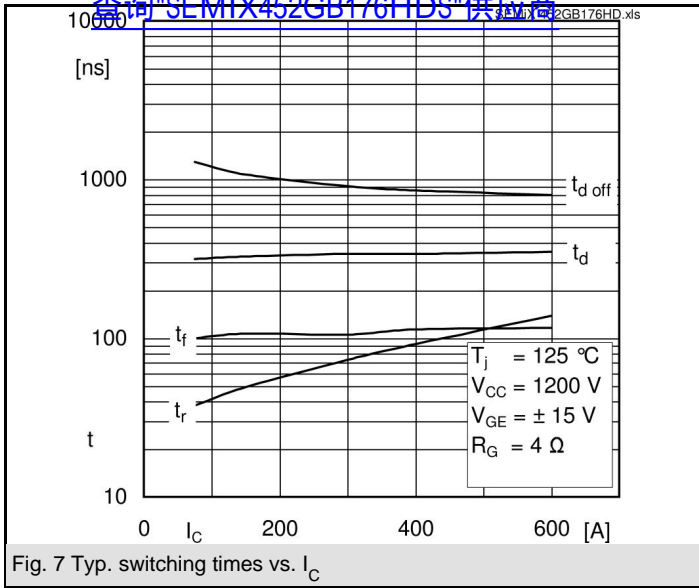
This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

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

查询"SEMIX452GB176HDs"供应商



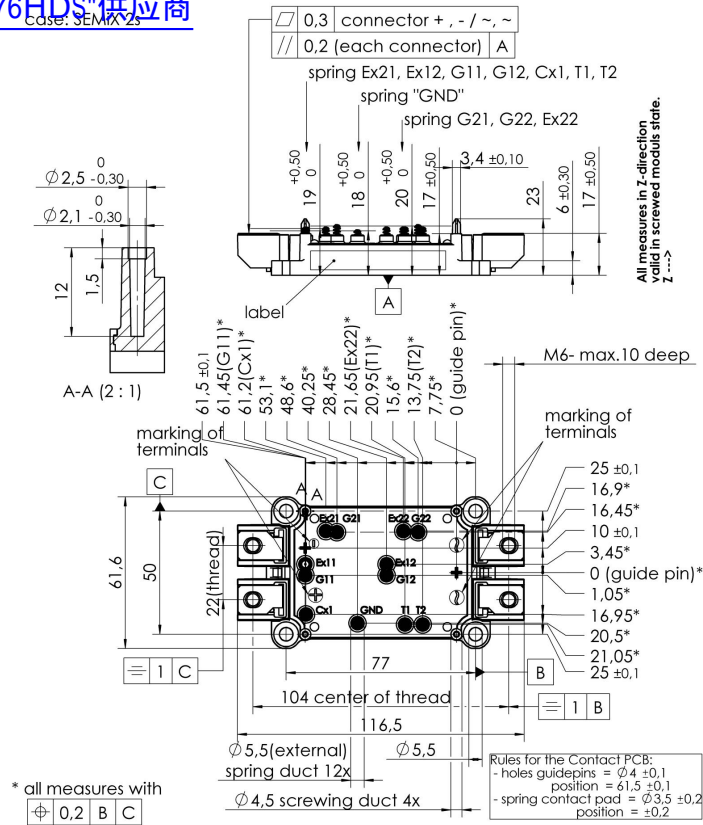
查询"SEMIX452GB176HDS"供应商



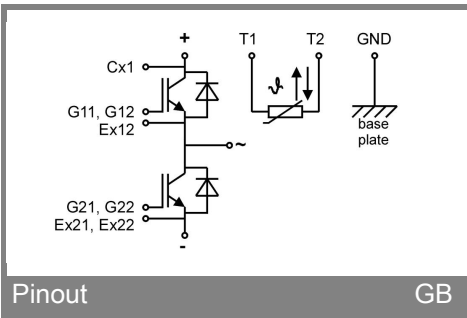
SEMiX 452GB176HDS

查询"SEMiX452GB176HDS"供应商

Case: SEMiX 2s



Case SEMiX 2s



Pinout

GB