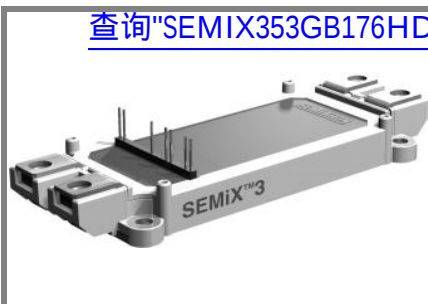


SEMiX 353GB176HD

查询"SEMIX353GB176HD" 07%供应商



SEMiX® 3

Trench IGBT Modules

SEMiX 353GB176HD

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

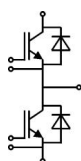
Remarks

- short circuit capability is tested @ $V_{CC}=1000V$ (all other static parameters are tested @ $V_{CC}=1200V$)
- Not for new design

0%供应商

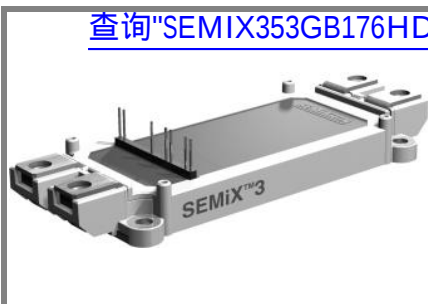
Absolute Maximum Ratings		$T_c = 25^{\circ}\text{C}$, unless otherwise specified		
Symbol	Conditions	Values		Units
IGBT				
V_{CES}	$T_j = 25^{\circ}\text{C}$	1700		V
I_C	$T_j = 150^{\circ}\text{C}$	$T_{case} = 25^{\circ}\text{C}$	350	A
		$T_{case} = 80^{\circ}\text{C}$	250	A
I_{CRM}	$I_{CRM}=2 \times I_{Cnom}$	450		A
V_{GES}		± 20		V
t_{psc}	$V_{CC} = 1200\text{ V}; V_{GE} \leq 20\text{ V}; T_j = 125^{\circ}\text{C}$ $V_{CES} < 1700\text{ V}$	10		μs
Inverse Diode				
I_F	$T_j = 150^{\circ}\text{C}$	$T_c = 25^{\circ}\text{C}$	425	A
		$T_c = 80^{\circ}\text{C}$	285	A
I_{FRM}	$I_{FRM}=2 \times I_{Fnom}$	450		A
I_{FSM}	$t_p = 10\text{ ms}; \sin.$	$T_j = 25^{\circ}\text{C}$	1800	A
Module				
$I_{t(RMS)}$		600		A
T_{vj}		$- 40 \dots + 150$		$^{\circ}\text{C}$
T_{stg}		$- 40 \dots + 125$		$^{\circ}\text{C}$
V_{isol}	AC, 1 min.	4000		V

Characteristics			T _c = 25°C, unless otherwise specified			
Symbol	Conditions		min.	typ.	max.	Units
IGBT						
V _{GE(th)}	V _{GE} = V _{CE} , I _C = 9 mA		5,2	5,8	6,4	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 = 125 °C			1	1,2	V
				0,9	1,1	V
r _{CE}	V _{GE} = 15 V T _j = 25°C T _j = 125°C			4,4	5,5	mΩ
				6,9	8	mΩ
V _{CE(sat)}	I _{Cnom} = 225 A, V _{GE} = 15 V T _j = 25°C _{chiplev.} T _j = 125°C _{chiplev.}			2	2,45	V
				2,45	2,9	V
C _{ies}	V _{CE} = 25, V _{GE} = 0 V f = 1 MHz			19,9		nF
C _{oes}				0,83		nF
C _{res}				0,66		nF
Q _G	V _{GE} = -8 V ... +15 V			2100		nC
t _{d(on)}	R _{Gon} = 5,6 Ω	V _{CC} = 1200V I _{Cnom} = 225A T _j = 125 °C		250		ns
t _r				75		ns
E _{on}			155		mJ	
t _{d(off)}	R _{Goff} = 5,6 Ω			930		ns
t _f				180		ns
E _{off}				85		mJ
R _{th(j-c)}	per IGBT				0,086	K/W



GB

查询"SEMIX353GB176HD" 07*供应商



SEMiX® 3

Trench IGBT Modules

SEMiX 353GB176HD

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

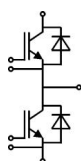
Remarks

- short circuit capability is tested @ $V_{CC}=1000V$ (all other static parameters are tested @ $V_{CC}=1200V$)
- Not for new design

Characteristics					
Symbol	Conditions	min.	typ.	max.	Units
Inverse Diode					
$V_F = V_{EC}$	$I_{Fnom} = 225 A$; $V_{GE} = 0 V$				
	$T_j = 25 ^\circ C_{chiplev.}$		1,55	1,75	V
	$T_j = 125 ^\circ C_{chiplev.}$		1,5	1,7	V
V_{F0}	$T_j = 25 ^\circ C$		1,1	1,3	V
	$T_j = 125 ^\circ C$		0,9	1,1	V
r_F	$T_j = 25 ^\circ C$		2		mΩ
	$T_j = 125 ^\circ C$		2,7		mΩ
I_{RRM}	$I_{Fnom} = 225 A$		280		A
Q_{rr}	$di/dt = 4000 A/\mu s$		83		μC
E_{rr}	$V_{GE} = -15 V$; $V_{CC} = 1200 V$		45		mJ
$R_{th(j-c)D}$	per diode			0,13	K/W
Module					
L_{CE}			20		nH
$R_{CC'+EE'}$	res., terminal-chip	$T_{case} = 25 ^\circ C$	0,7		mΩ
		$T_{case} = 125 ^\circ C$	1		mΩ
$R_{th(c-s)}$	per module		0,04		K/W
M_s	to heat sink M5		3	5	Nm
M_t	to terminals M6		2,5	5	Nm
w				300	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.



GB

查询"SEMIX353GB176HD_07"供应商

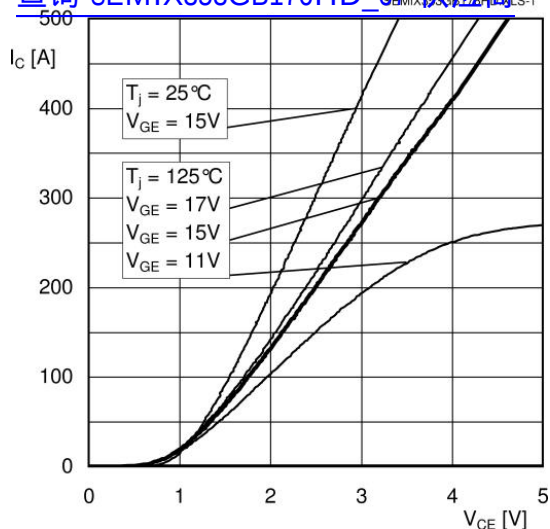


Fig. 1 Typ. output characteristic, inclusive $R_{CC+EE'}$

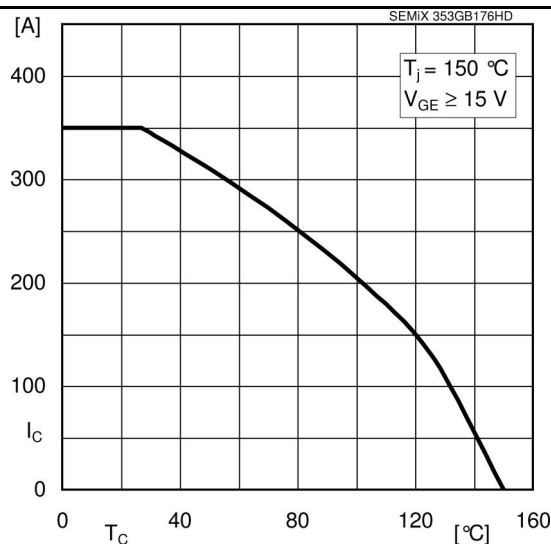


Fig. 2 Rated current vs. temperature $I_C = f(T_C)$

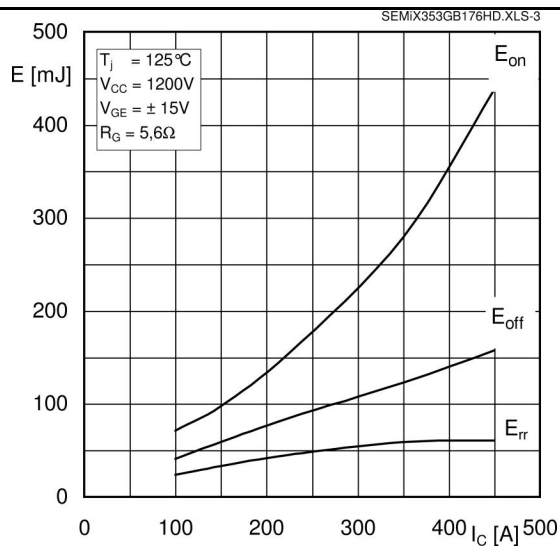


Fig. 3 Typ. turn-on /off energy = $f(I_C)$

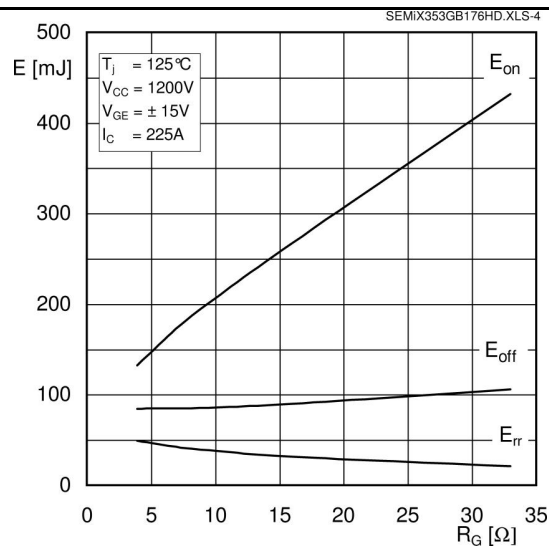


Fig. 4 Typ. turn-on /off energy = $f(R_G)$

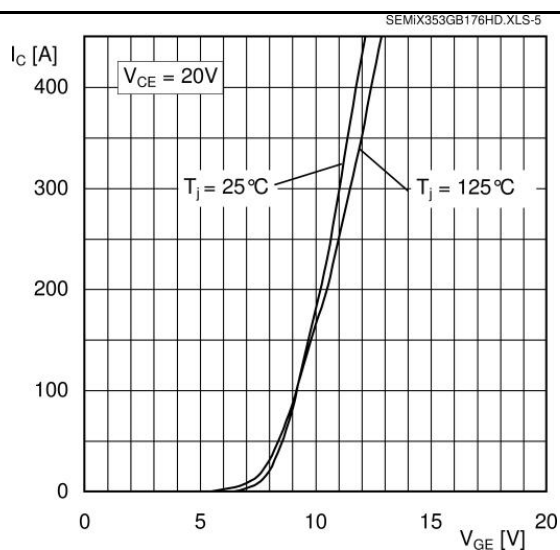


Fig. 5 Typ. transfer characteristic

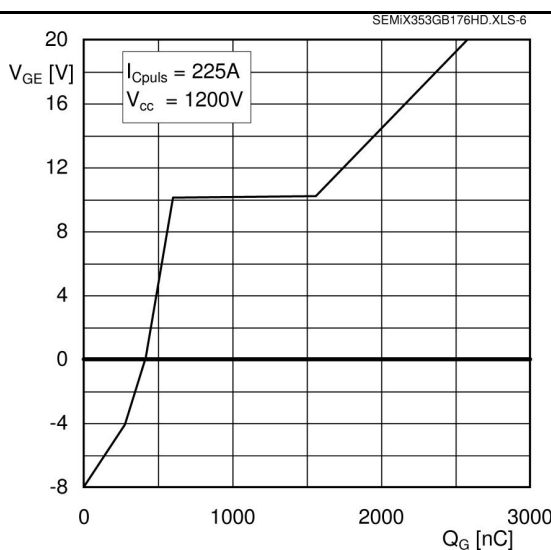
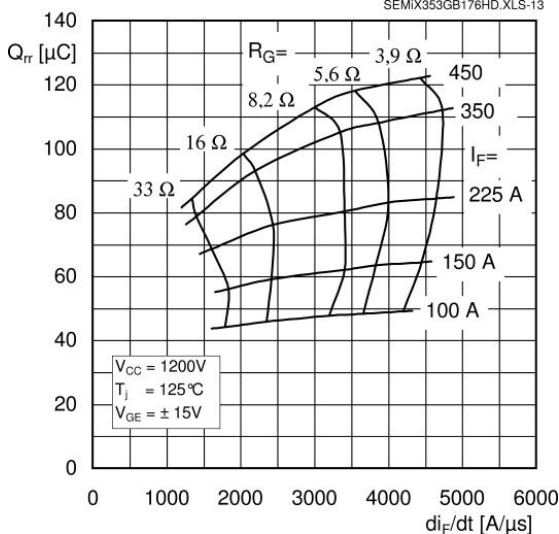
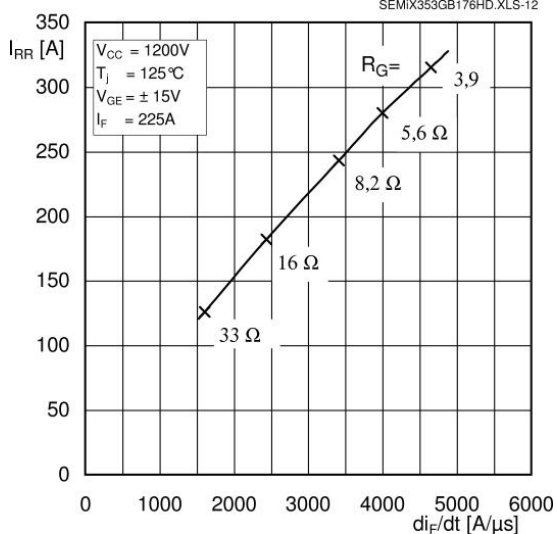
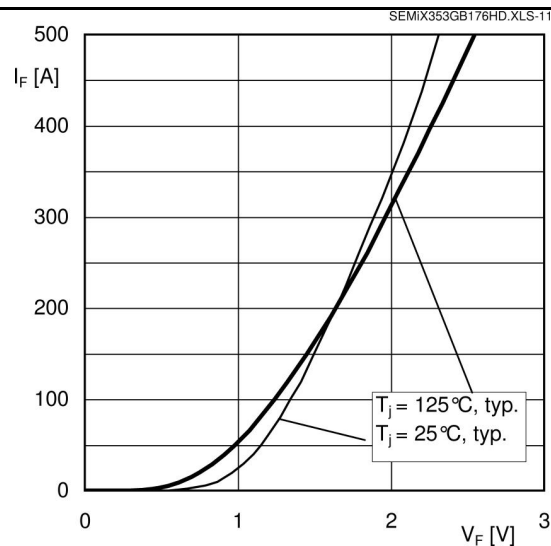
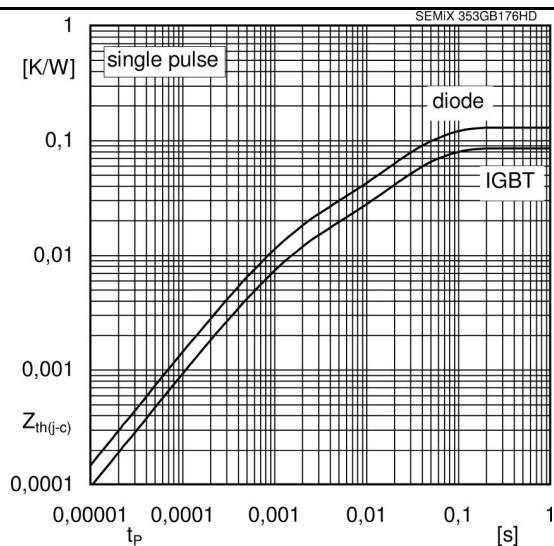
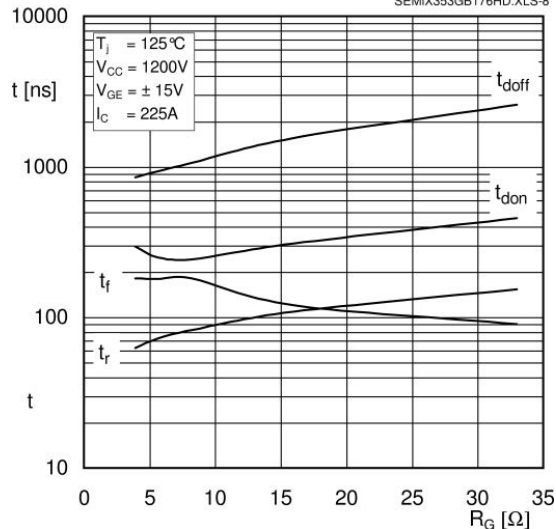
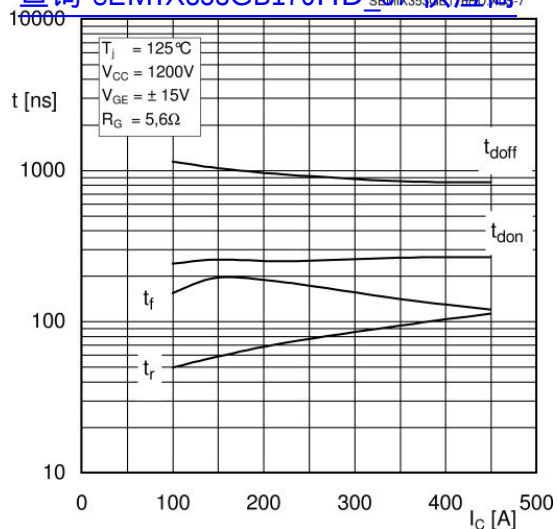
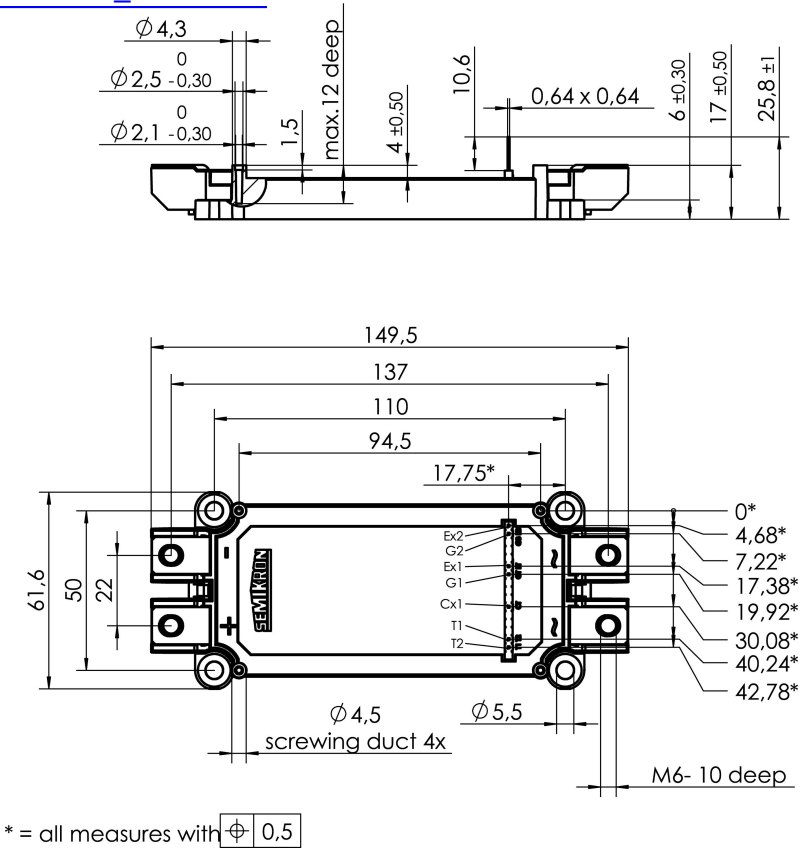


Fig. 6 Typ. gate charge characteristic

查询"SEMIX353GB176HD-07"供应商



[查询"SEMIX353GB176HD"供应商](#)



Case SEMiX 3

