



# MG300HF12LEC2

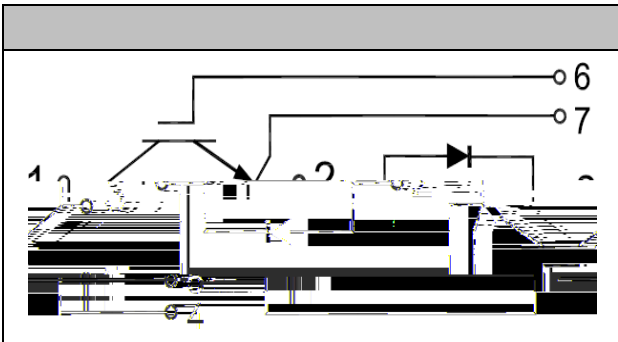
## IGBT Modules



**V<sub>CES</sub>**            1200V  
**I<sub>C</sub>**                 300A

## Applications

- High frequency drivers
- Solar inverters
- UPS (Uninterruptible Power Supplies)
- Electric welding machine



## Features

- High speed IGBT in NPT technology
- Low switching losses
- High short circuit capability(10us)
- Including ultra fast & soft recovery anti-parallel FWD
- Low inductance
- Maximum junction temperature 150

## ● IGBT

### Absolute Maximum Ratings

Parameter	Symbol	Conditions	Value	Unit
Collector-Emitter Voltage	V <sub>CES</sub>	V <sub>GE</sub> =0V, I <sub>C</sub> =1mA, T <sub>vj</sub> =25	1200	V
Continuous Collector Current	I <sub>C</sub>	T <sub>c</sub> =80	300	A
Repetitive Peak Collector Current	I <sub>CRM</sub>	t <sub>p</sub> =1ms	600	A
Gate-Emitter Voltage	V <sub>GES</sub>	T <sub>vj</sub> =25	20	V
Total Power Dissipation	P <sub>tot</sub>	T <sub>c</sub> =25 T <sub>vjmax</sub> =150	2000	W



# MG300HF12LEC2

---

## Characteristic values

---

Parameter	Symbol	Conditions	Value	Unit
-----------	--------	------------	-------	------



# MG300HF12LEC2

## ● Diode

### Absolute Maximum Ratings

Parameter	Symbol	Conditions	Value	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	$T_{vj}=25$	1200	V
Continuous DC Forward Current	$I_F$		300	A
Repetitive Peak Forward Current	$I_{FRM}$	$t_p=1\text{ms}$	600	A

### Characteristic values

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Forward Voltage	$V_F$	$I_F=300\text{A}, T_{vj}=25$		1.70	2.0	V
		$I_F=300\text{A}, T_{vj}=125$		1.75		
Recovered Charge	$Q_{rr}$	$I_F=300\text{A}$		16.8		$\mu\text{C}$
Peak Reverse Recovery Current	$I_{rr}$	$V_R=600\text{V}$ $-di_F/dt=3600\text{A}/\mu\text{s}$		240		A
Reverse Recovery Energy	$E_{rec}$	$T_{vj}=25$		10.2		mJ
Recovered Charge	$Q_{rr}$	$I_F=300\text{A}$		36.5		$\mu\text{C}$
Peak Reverse Recovery Current	$I_{rr}$	$V_R=600\text{V}$ $-di_F/dt=3600\text{A}/\mu\text{s}$		290		A
Reverse Recovery Energy	$E_{rec}$	$T_{vj}=125$		20.3		mJ



# MG300HF12LEC2

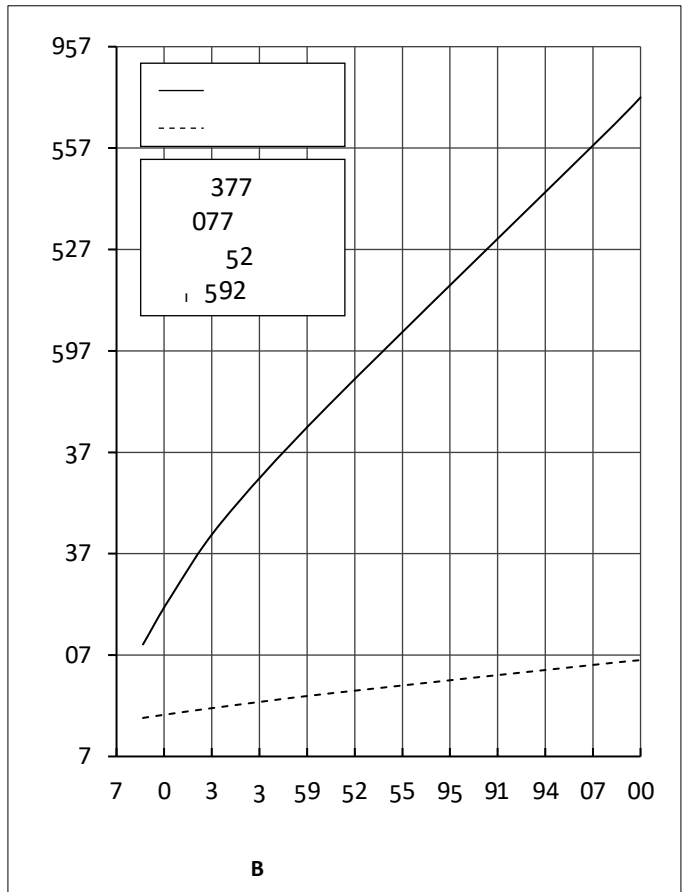
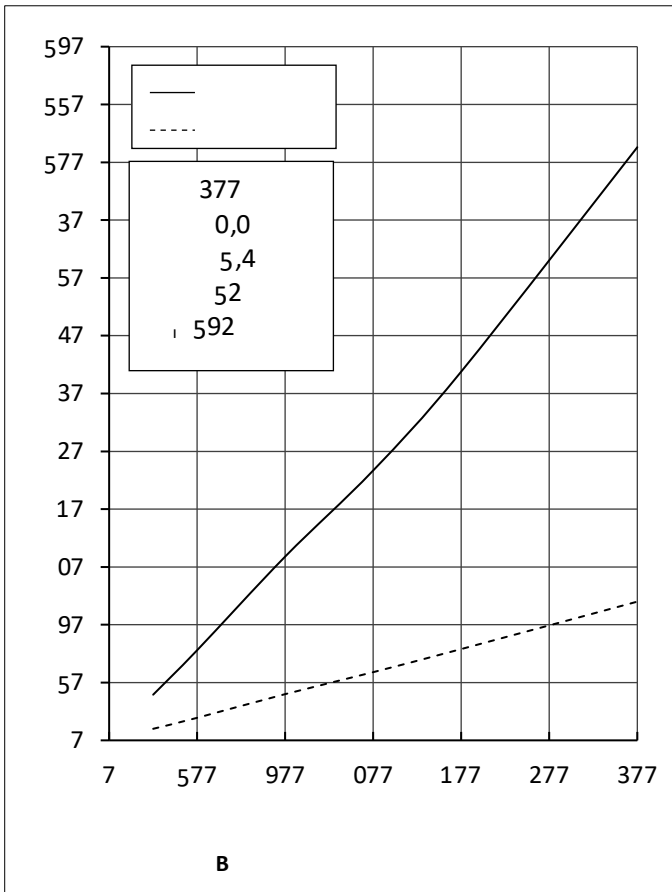
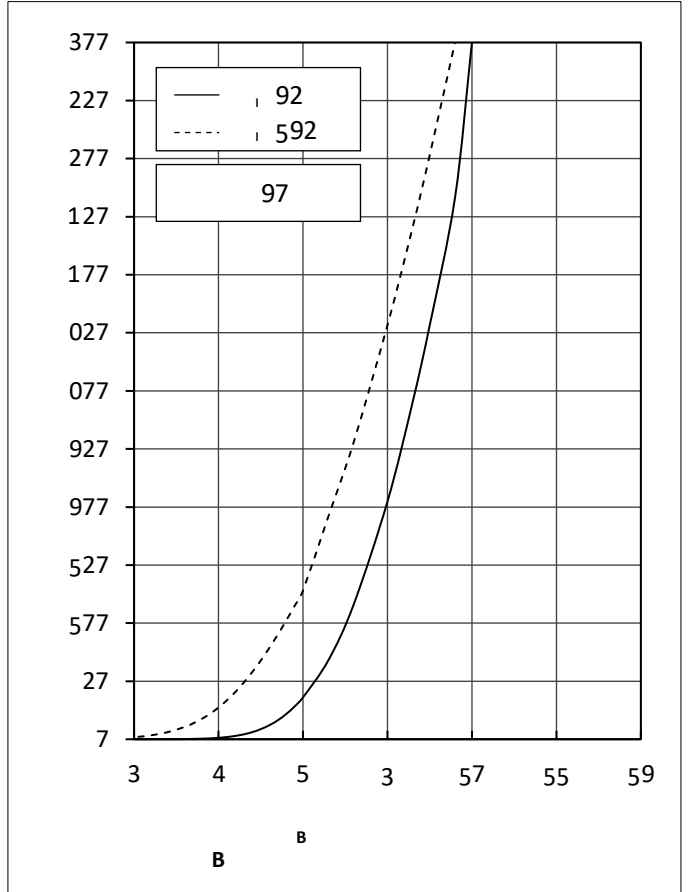
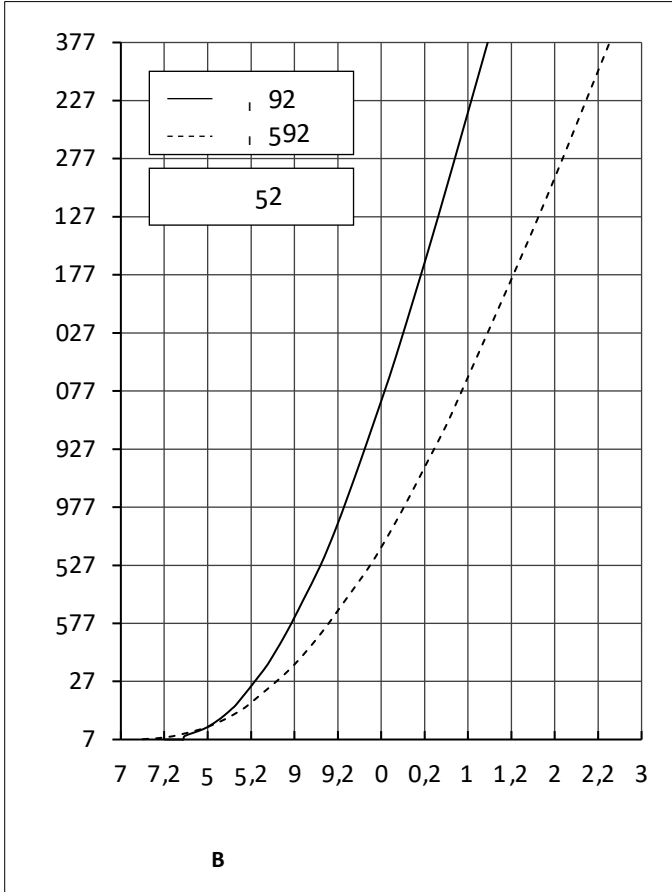
## ● Module Characteristics

T<sub>c</sub>=25°C unless otherwise specified

Parameter	Symbol	Conditions	Value	Unit
			Min.	

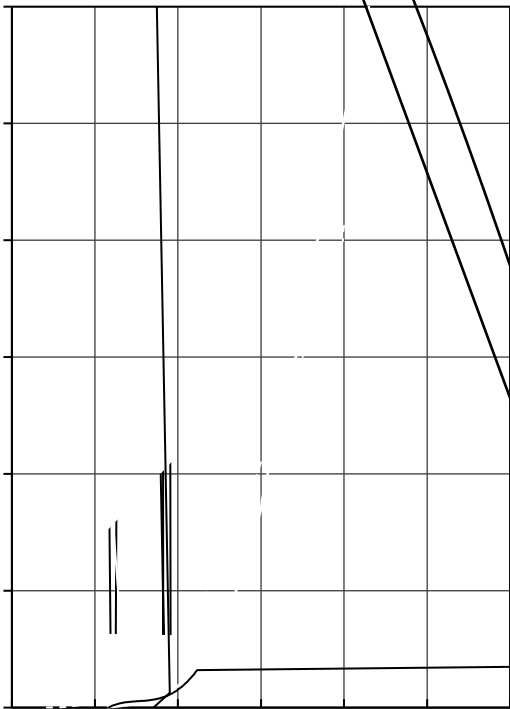
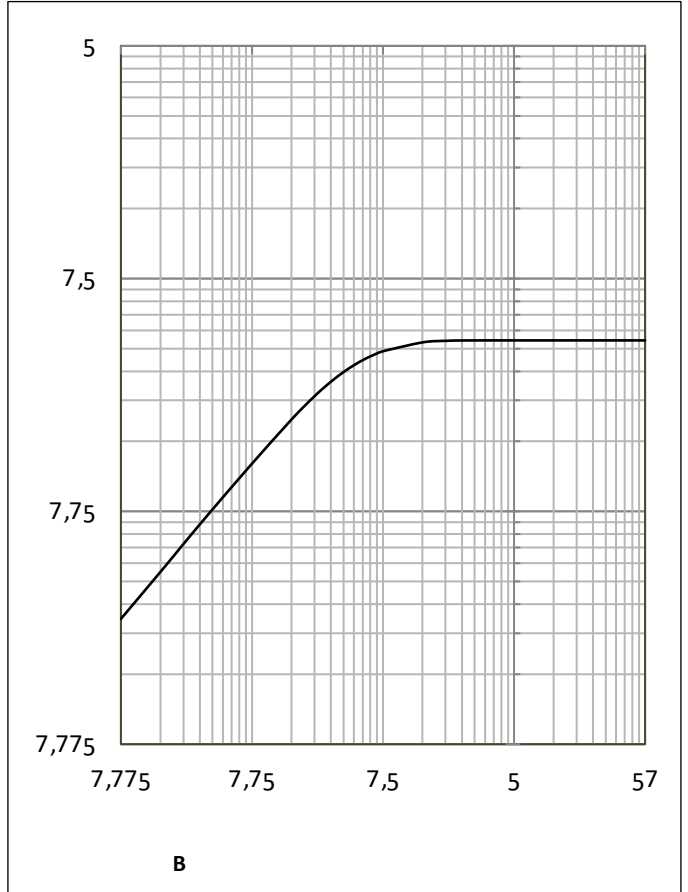
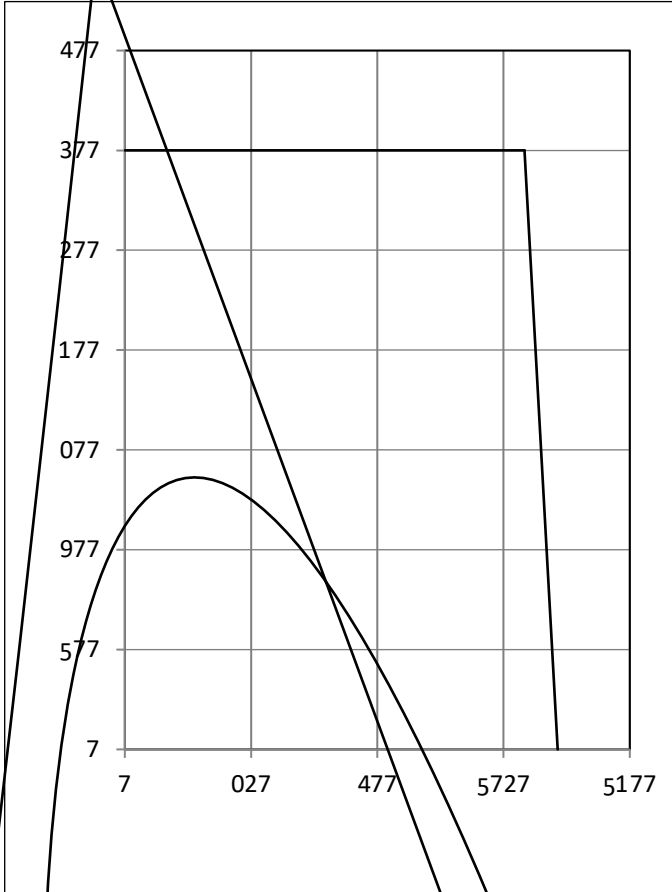


# MG300HF12LEC2



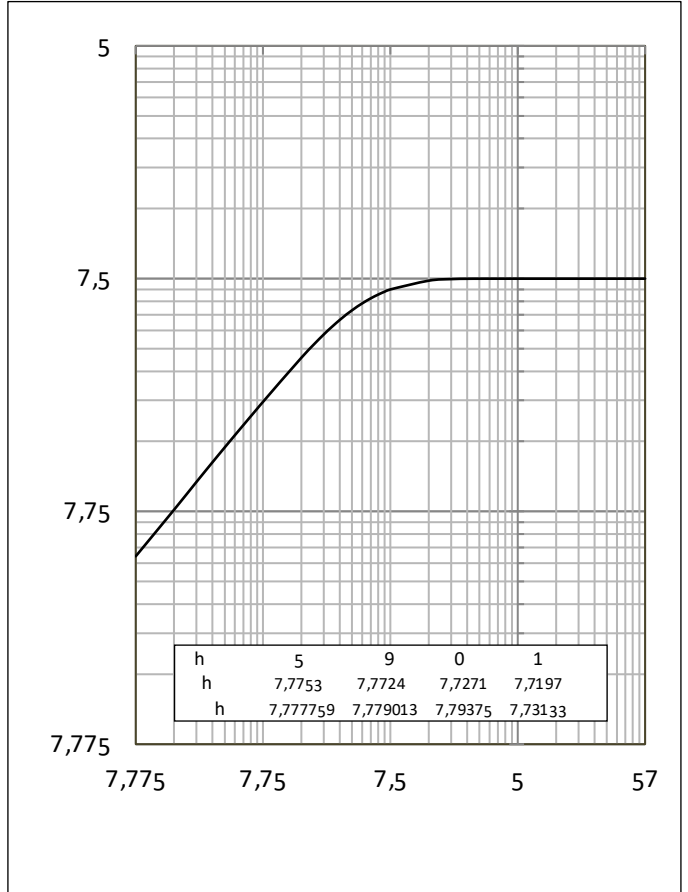
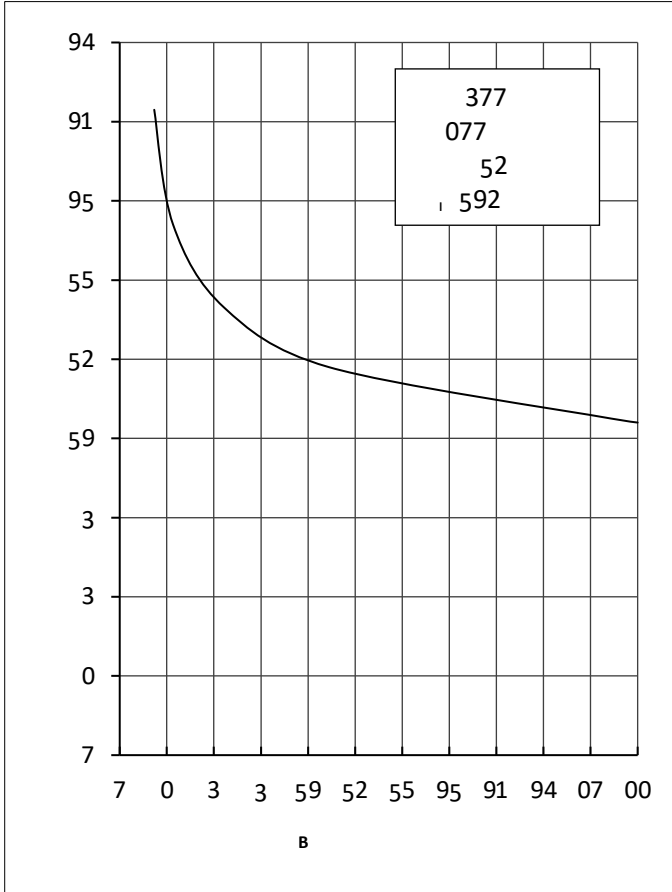


# MG300HF12LEC2





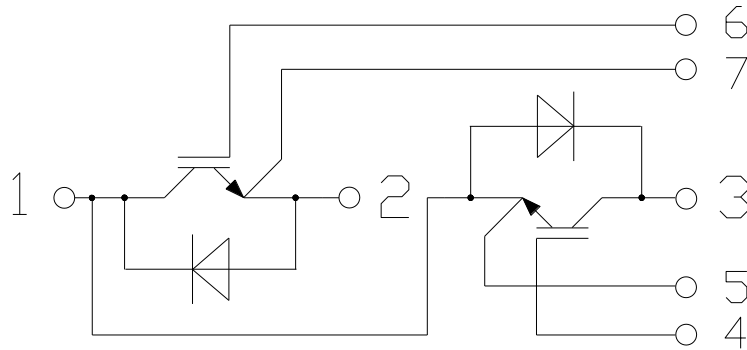
# MG300HF12LEC2





# MG300HF12LEC2

## ● Circuit Diagram



## ● Package Outline Information

Dimensions in Millimeters

