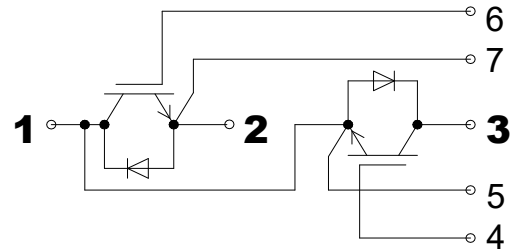


SGG150NF120UC2

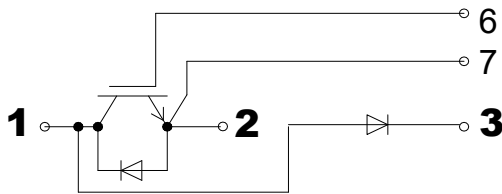
IGBT Modules



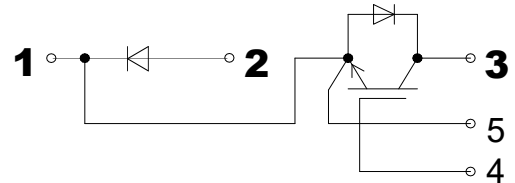
SGG150NF120UC2



SGD150NF120UC2



SDG150NF120UC2



Symbol	Test Condition	Value	Unit
IGBT			
V _{CES}		1200	V
I _C	T _C = 100°C per chip	150	A
V _{GES}		±20	V
T _{vj} (T _{stg})		-40 ~ +150(125)	°C
P _{tot}		500	W
INVERSE DIODE			
I _F	T _C =25°C per chip	150	A
I _{FM}		300	A
V _{RRM}		1200	V
i ² _t	T _j =125°C, t=10ms, V _R =0V	4600	A ² S

Sirectifier®

SGG150NF120UC2

IGBT Modules

Symbol	Test Conditions	Min	Typ	Max	Unit
IGBT Tc = 25°C unless otherwise specified					
$V_{GE(th)}$	$V_{GE}=V_{CE}, I_C=1mA$	4.5	5.5	6.7	V
I_{CES}	$V_{GE}=0; V_{CE}=V_{CES}; T_J=25(125)^{\circ}C$			1	mA
$V_{CE(TO)}$	$T_J=25(125)^{\circ}C$		1.0(0.9)	1.2(1.1)	V
r_{CE}	$V_{GE}=15V$		9(12)	12(15)	mΩ
$V_{CE(sat)}$	$I_C=150A; V_{GE}=15V; \text{chip level}$		2.1	2.5	V
C_{ies}	$V_{GE}=0V, V_{CE}=25V, f=1MHz$		9.20		nF
C_{oes}			1.00		
C_{res}			0.93		
L_{CE}				29	nH
RCC'+EE'	Termial to Case, $T_c=25^{\circ}C$		0.75		mΩ
$t_{d(on)}$	$V_{cc}=600V, I_C=150A$ $R_{GON}=R_{GOFF}=10\Omega$ $T_J=125^{\circ}C V_{GE}=\pm 15V$		185		ns
t_r			50		ns
$t_{d(off)}$			590		ns
t_f			50		ns
E_{on}/E_{off}			11.50/9.30		mJ
INVERSE DIODE Tc = 25°C unless otherwise specified					
V_F	$I_F=150A; V_{GE}=0V; T_J=25^{\circ}C$		2.0	2.5	V
Q_{rr}	$I_F=150A; V_R=300V;$ $T_J=25^{\circ}C di/dt=3500A/us,$ $V_{GE}=-15V$		14.5		μC
I_{RRM}			130		A
Erec			4.80		mJ
THERMAL CHARACTERISTICS					
$R_{th(j-c)}$	per IGBT			0.125	K/W
$R_{th(j-c)D}$	per FRD			0.550	K/W
$R_{th(c-s)}$	per module			0.101	K/W
Ms		2.5		4	Nm
Weight			325		g

Features

- Planar Gate Field Stop (SPT⁺) Technology IGBT
- Fast Recovery Free Wheeling Diode
- Low Switching Losses
- $V_{ce(sat)}$ with positive temperature coefficient
- Fast Switching and short tail current
- Switched mode power supplies at $f_{sw}>20KHz$
- Resonant inverters up to 100KHz
- Electronic Welders at $f_{sw}>20KHz$

Application

- Welding inverters
- Inductive Heating

Advantages

- Space and weight savings
- Reduced protection circuits

Sirectifier®

SGG150NF120UC2

IGBT Modules

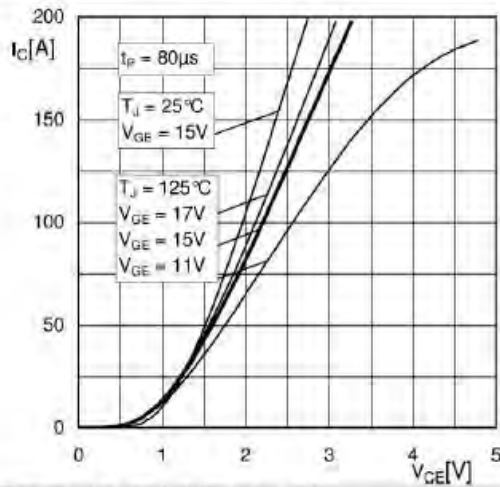


Fig. 1 Typ. output characteristic, inclusive R_{CC+EE}

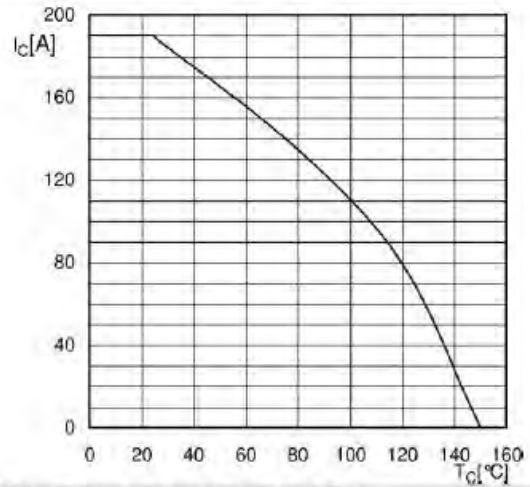


Fig. 2 Rated current vs. temperature $I_C = f(T_C)$

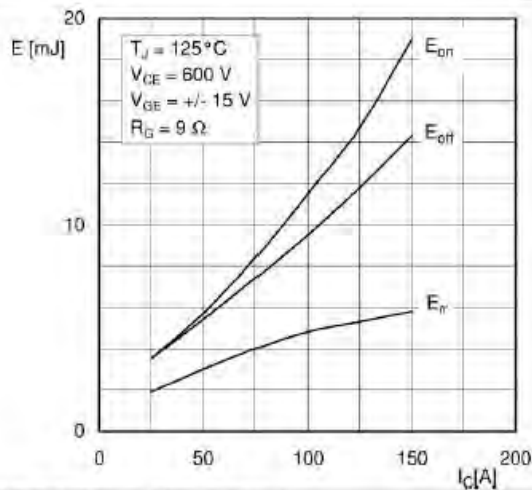


Fig. 3 Typ. turn-on /-off energy = $f(I_C)$

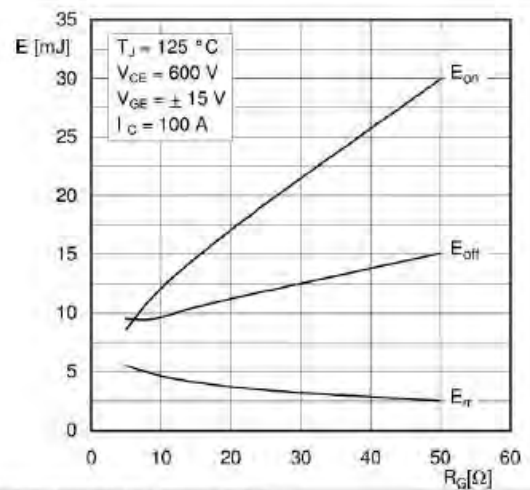


Fig. 4 Typ. turn-on /-off energy = $f(R_G)$

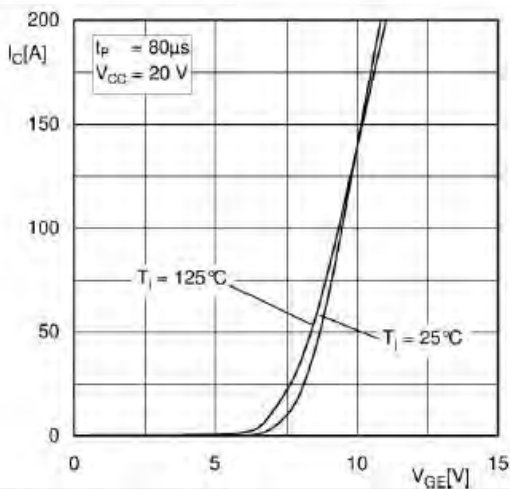


Fig. 5 Typ. transfer characteristic

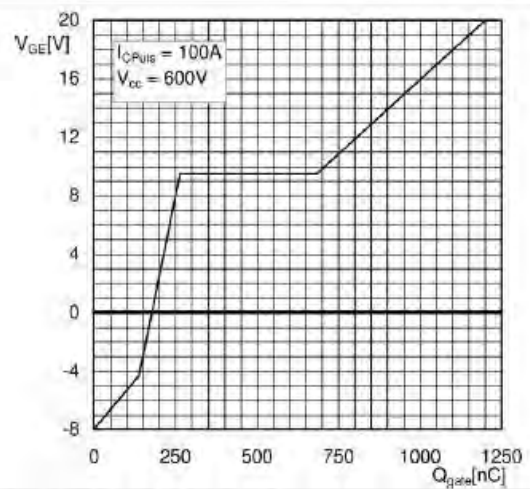
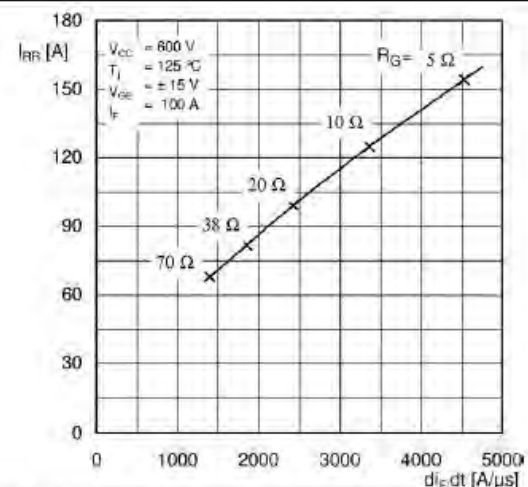
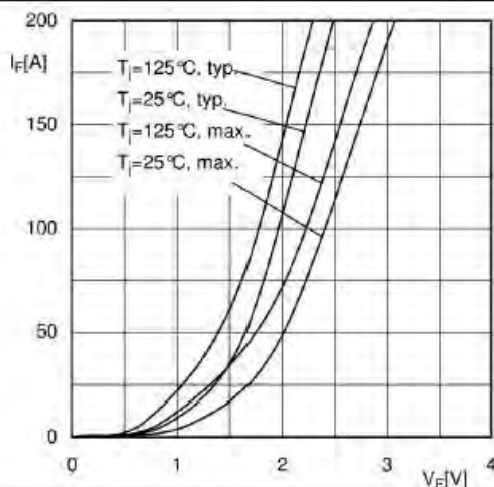
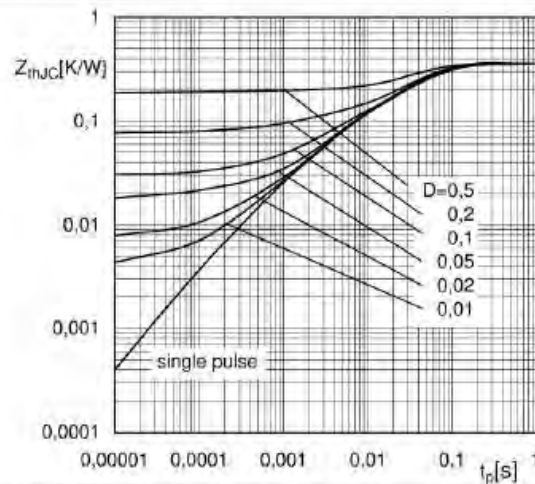
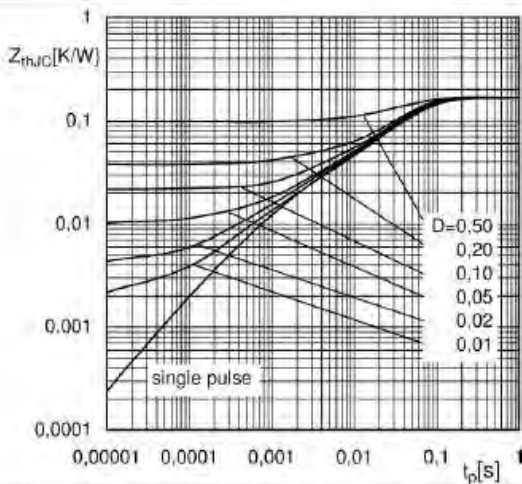
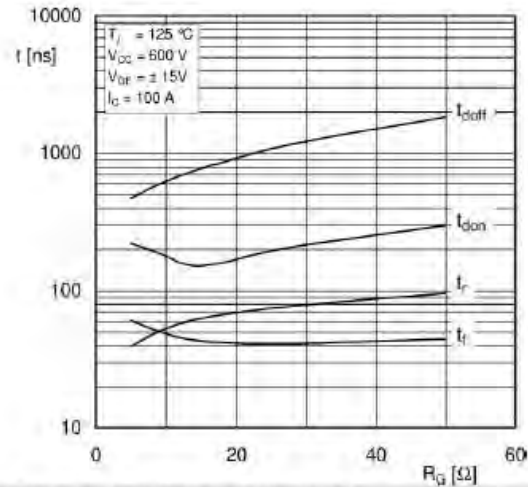
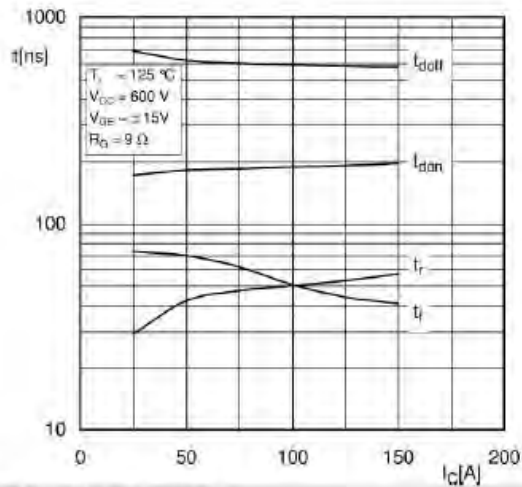


Fig. 6 Typ. gate charge characteristic

Sirectifier®

SGG150NF120UC2

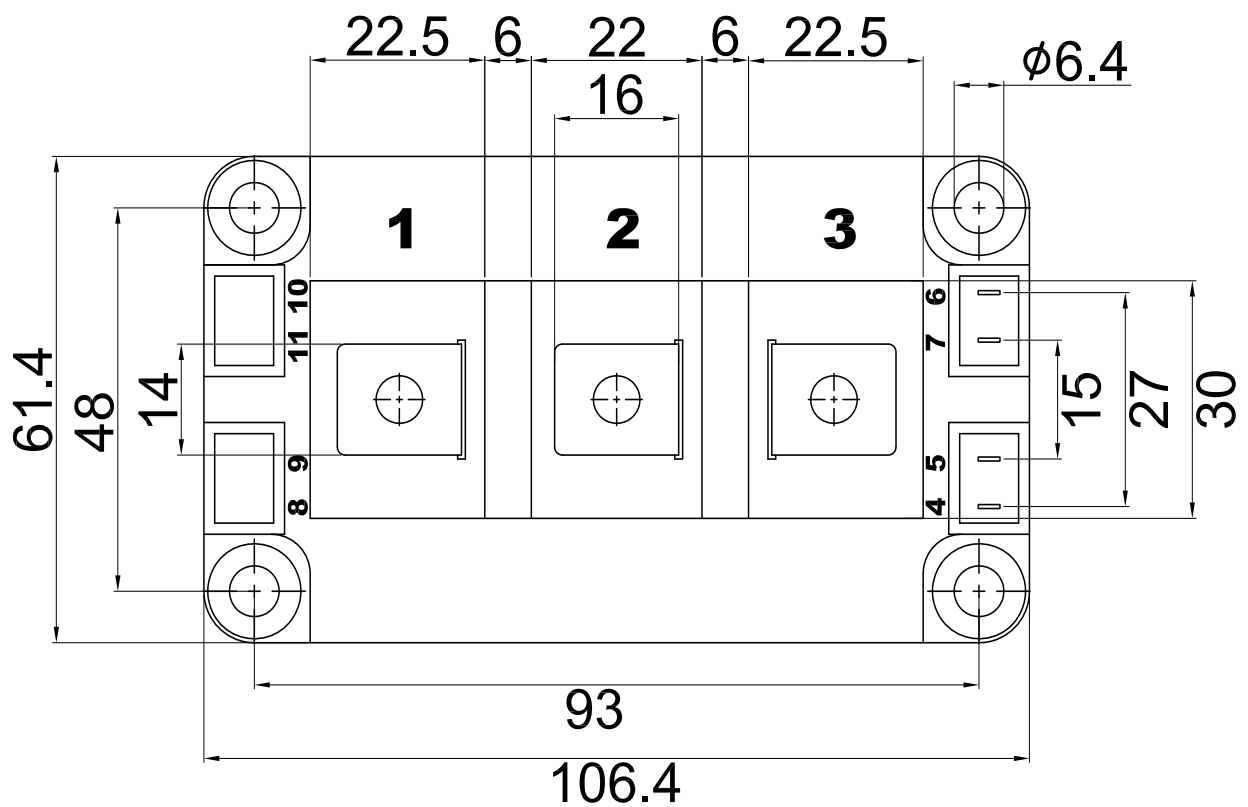
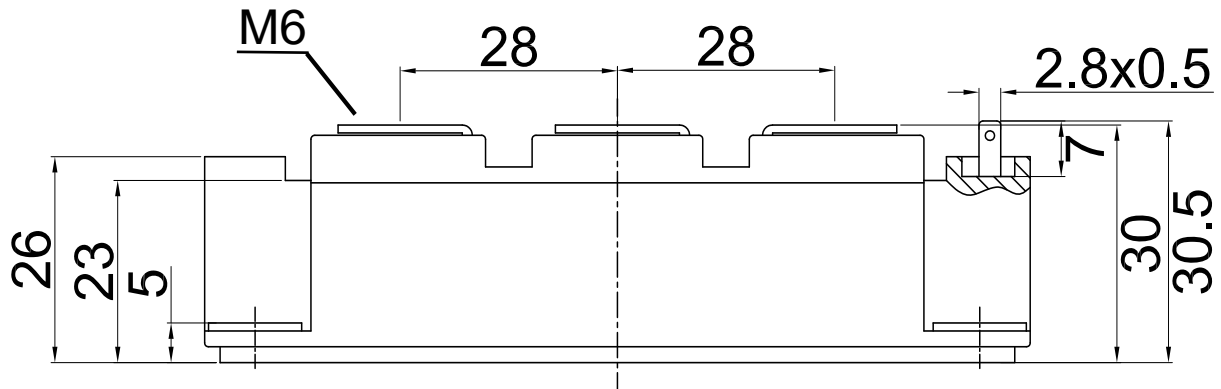
IGBT Modules



Sirectifier®

SGG150NF120UC2

IGBT Modules



Sirectifier®