

MOSFET MODULE

SF100CB100



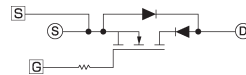
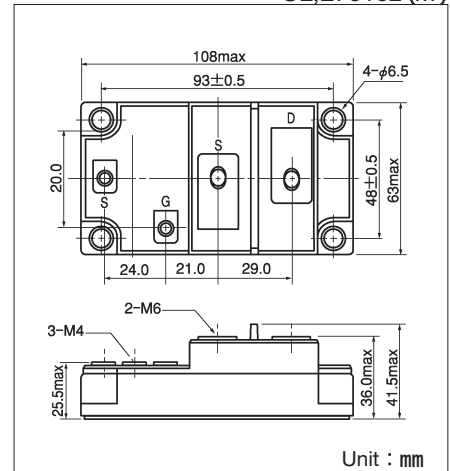
UL;E76102 (M)

SF100CB100 is a isolated power MOSFET module designed for fast switching applications of high voltage and current. The mounting base of the module is electrically isolated from semiconductor elements for simple heatsink construction.

- $I_D=100A$, $V_{DSS}=1000V$
- Suitable for high speed switching applications.
- Low ON resistance.
- Wide Safe Operating Areas.
- $t_{rr} \leq 300ns$

(Applications)

UPS (CVCF), Motor Control, Switching Power Supply, etc.



Maximum Ratings

($T_j=25^\circ C$)

Symbol	Item		Conditions	Ratings		Unit
				SF100CB100		
V_{DSS}	Drain-Source Voltage			1000		V
V_{GSS}	Gate-Source Voltage			± 30		V
I_D	Drain Current	DC		100		A
I_{DP}		Pulse		200		
$-I_D$	Reverse Drain Current			100		A
P_T	Total Power Dissipation		$T_c=25^\circ C$	800		W
T_j	Channel Temperature			$-40 \sim +150$		$^\circ C$
T_{stg}	Storage Temperature			$-40 \sim +125$		$^\circ C$
V_{iso}	Isolation Voltage (R.M.S.)		A.C. 1minute	2500		V
	Mounting Torque	Mounting (M6)	Recommended Value			N·m (kgf·cm)
		Terminal (M6)	Recommended Value 2.5~3.9 (25~40)	4.7 (48)		
		Terminal (M4)	Recommended Value 1.0~1.4 (10~14)	1.5 (15)		
	Mass		Typical Value	460		g

Electrical Characteristics

($T_j=25^\circ C$)

Symbol	Item		Conditions	Ratings			Unit
				Min.	Typ.	Max.	
I_{GSS}	Gate Leakage Current		$V_{GS} = \pm 20V$, $V_{DS} = 0V$			± 1000	μA
I_{DSS}	Zero Gate Voltage Drain Current		$V_{GS} = 0V$, $V_{DS} = 800V$			4.0	mA
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage		$V_{GS} = 0V$, $I_D = 1mA$	1000			V
$V_{GS(th)}$	Gate-Source Threshold Voltage		$V_{DS} = V_{GS}$, $I_D = 10mA$	1.5		3.5	V
$R_{DS(on)}$	Drain-Source On-State Resistance		$I_D = 100A$, $V_{GS} = 15V$			150	m Ω
$V_{DS(on)}$	Drain-Source On-State Voltage		$I_D = 100A$, $V_{GS} = 15V$			15	V
g_{fs}	Forward Transconductance		$V_{DS} = 10A$, $V_D = 75A$	30	50		S
C_{iss}	Input Capacitance		$V_{GS} = 0V$, $V_{DS} = 25V$, $f = 1.0MHz$		16000	19200	pF
C_{oss}	Output Capacitance		$V_{GS} = 0V$, $V_{DS} = 25V$, $f = 1.0MHz$		2900	4200	pF
C_{rss}	Reverse Transfer Capacitance		$V_{GS} = 0V$, $V_{DS} = 25V$, $f = 1.0MHz$		1800	2600	pF
$t_{d(on)}$	Switching Time	Turn-on Delay Time	$R_L = 6 \Omega$, $V_{GS} = 15V / -5V$ $I_D = 100A$, $R_G = 2.2 \Omega$			150	ns
t_r		Rise Time				300	
$t_{d(off)}$		Turn-off Delay Time				600	
t_f		Fall Time				300	
V_{SDS}	Diode Forward Voltage		$-I_D = 100A$, $V_{GS} = 0V$			1.8	V
t_{rr}	Reverse Recovery Time		$-I_S = 100A$, $V_{GS} = 15V$, $di/dt = 400A/\mu s$			300	ns
$R_{th(j-c)}$	Thermal Resistance		MOSFET			0.16	$^\circ C/W$
			Diode			0.64	

