

MOSFET MODULE

SF150BA50

TOP



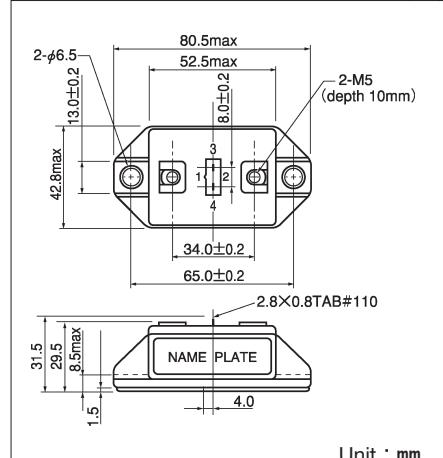
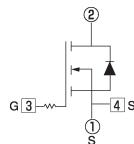
UL:E76102 (M)

SF150BA50 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.

- $I_D = 150A$, $V_{DSS} = 500V$
- Suitable for high speed switching application.
- Low ON resistance.
- Wide Safe Operating Areas.
- $t_{rr} \leq 700ns$

(Applications)

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



Unit : mm

■ Maximum Ratings

Symbol	Item	Conditions	Ratings	Unit
			SF150BA50	
V_{DSS}	Drain-Source Voltage		500	V
V_{GSS}	Gate-Source Voltage		±20	V
I_D I_{DP}	Drain Current DC	Duty = 35%	150	A
	Pulse		300	
$-I_D$	Reverse Drain Current		150	A
P_T	Total Power Dissipation	$T_c = 25^\circ C$	780	W
T_j	Channel Temperature		-40 ~ +150	°C
T_{stg}	Storage Temperature		-40 ~ +125	°C
V_{iso}	Isolation Voltage (R.M.S.)	A.C. 1 minute	2500	V
Mounting Torque	Mounting (M6)	Recommended Value 2.5~3.9 (25~40)	4.7 (48)	N·m (kgf·cm)
	Terminal (M5)	Recommended Value 1.5~2.5 (15~25)	2.7 (28)	
Mass	Typical Value		160	g

■ Electrical Characteristics

($T_j = 25^\circ C$)

Symbol	Item	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
I_{GS}	Gate Leakage Current	$V_{GS} = \pm 20V$, $V_{DS} = 0V$			±2.0	μA
I_{DS}	Zero Gate Voltage Drain Current	$V_{GS} = 0V$, $V_{DS} = 500V$			2.0	mA
$V_{(BR)DSS}$	Darin-Source Breakdown Voltage	$V_{GS} = 0V$, $I_D = 1mA$	500			V
$V_{GS(th)}$	Gate-Source Threshold Voltage	$V_{DS} = V_{GS}$, $I_D = 10mA$	1.0		5.0	V
$R_{DS(on)}$	Drain-Source On-State Resistance	$I_D = 75A$, $V_{GS} = 15V$			50	$m\Omega$
$V_{DS(on)}$	Drain-Source On-State Voltage	$I_D = 75A$, $V_{GS} = 15V$			2.5	V
g_{fs}	Forward Transconductance	$V_{DS} = 10V$, $I_D = 75A$		80		S
C_{iss}	Input Capacitance	$V_{GS} = 0V$, $V_{DS} = 25V$, $f = 1.0MHz$			27000	pF
C_{oss}	Output Capacitance	$V_{GS} = 0V$, $V_{DS} = 25V$, $f = 1.0MHz$			5000	pF
C_{rss}	Reverse Transfer Capacitance	$V_{GS} = 0V$, $V_{DS} = 25V$, $f = 1.0MHz$			2000	pF
$t_d(on)$	Switching Time	Turn-on Delay Time			90	ns
tr		Rise Time			180	
$td(off)$		Turn-off Delay Time	$R_L = 4\Omega$, $R_{GS} = 50\Omega$, $V_{GS} = 15V$ $I_D = 75A$, $R_G = 5\Omega$		1400	
tf		Fall Time			360	
V_{SDS}	Diode Forward Voltage	$-I_D = 75A$, $V_{GS} = 0V$			1.5	V
trr	Reverse Recovery Time	$-I_D = 75A$, $V_{GS} = 0V$, $di/dt = 100A/\mu s$		700		ns
$R_{th(j-c)}$	Thermal Resistance				0.16	°C/W

