

MOSFET MODULE

FBA75CA45/50

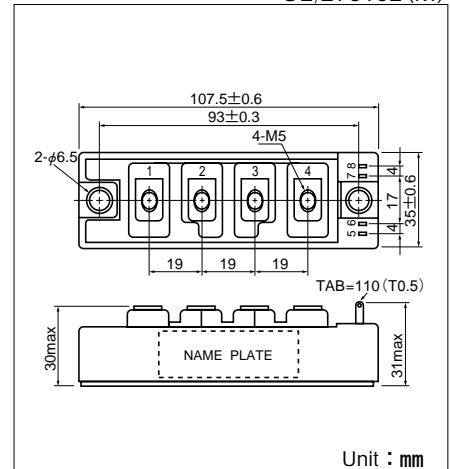
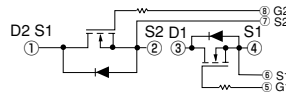
UL:E76102 (M)

FBA75CA45/50 is a dual power MOSFET module designed for fast switching applications of high voltage and current. (2 devices are serial connected.) The mounting base of the module is electrically isolated from semiconductor elements for simple heatsink construction.

- $I_D=75A$, $V_{DS}=500V$
- Suitable for high speed switching applications.
- Low ON resistance.
- Wide Safe Operating Areas.

(Applications)

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



Unit : mm

($T_j=25^\circ\text{C}$ unless otherwise specified)

Maximum Ratings

Symbol	Item		Conditions	Ratings		Unit
				FBA75CA45	FBA75CA50	
V_{DS}	Drain-Source Voltage			450	500	V
V_{GS}	Gate-Source Voltage			± 20		V
I_D	Drain Current	D.C.	Duty=36%	75		A
I_{DP}		Pulse		150		
$-I_D$	Source Current			75		A
P_T	Total Power Dissipation		$T_c=25^\circ\text{C}$	400		W
T_j	Channel Temperature			150		$^\circ\text{C}$
T_{stg}	Storage Temperature			-40 to +125		$^\circ\text{C}$
V_{iso}	Isolation Voltage (R.M.S.)		A.C. 1minute	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	220		g

Electrical Characteristics

($T_j=25^\circ\text{C}$ unless otherwise specified)

Symbol	Item		Conditions	Ratings			Unit
				Min.	Typ.	Max.	
I_{GSS}	Gate Leakage Current		$V_{GS}=\pm 20V$, $V_{DS}=0V$			± 1.0	μA
I_{DSS}	Zero Gate Voltage Drain Current		$V_{GS}=0V$, $V_{DS}=500V$			1.0	mA
$V_{(BR)DS}$	Drain-Source Breakdown Voltage	FBA75CA45	$V_{GS}=0V$, $I_D=1mA$	450			V
		FBA75CA50		500			
$V_{GS(th)}$	Gate-Source Threshold Voltage		$V_{DS}=V_{GS}$, $I_D=10mA$	1.0		5.0	V
$R_{DS(on)}$	Drain-Source On-State Resistance		$I_D=40A$, $V_{GS}=15V$			0.10	Ω
$V_{DS(on)}$	Drain-Source On-State Voltage		$I_D=40A$, $V_{GS}=15V$			4.0	V
g_{fs}	Forward Transconductance		$V_{DS}=10V$, $V_D=40A$		40		S
C_{iss}	Input Capacitance		$V_{GS}=0V$, $V_{DS}=25V$, $f=1.0MHz$			13500	pF
C_{oss}	Output Capacitance		$V_{GS}=0V$, $V_{DS}=25V$, $f=1.0MHz$			2500	pF
C_{rss}	Reverse Transfer Capacitance		$V_{GS}=0V$, $V_{DS}=25V$, $f=1.0MHz$			1000	pF
$t_d(on)$	Switching Time	Turn-on Delay Time	$R_L=7.5\Omega$, $R_{GS}=50\Omega$, $V_{GS}=15V$ $I_D=40A$, $R_G=5\Omega$		60		ns
t_r		Rise Time			120		
$t_d(off)$		Turn-off Delay Time			700		
t_f		Fall Time			210		
V_{SDS}	Diode Forward Voltage		$-I_D=40A$, $V_{GS}=0V$			1.5	V
t_{rr}	Reverse Recovery Time		$-I_D=40A$, $V_{GS}=0V$, $di/dt=100A/\mu s$		700		ns
$R_{th(j-c)}$	Thermal Resistance					0.31	$^\circ\text{C/W}$

