

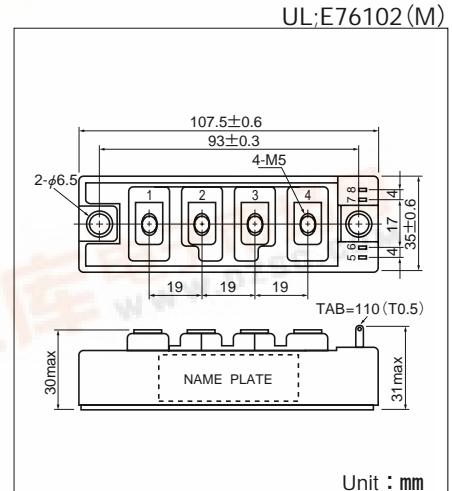
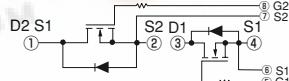
MOSFET MODULE**FBA50CA45/50**

FBA50CA45/50 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.

- $I_D=50A$, $V_{DSS}=500V$
- Suitable for high speed switching applications.
- Low ON resistance.
- Wide Safe Operating Areas.

(Applications)

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



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

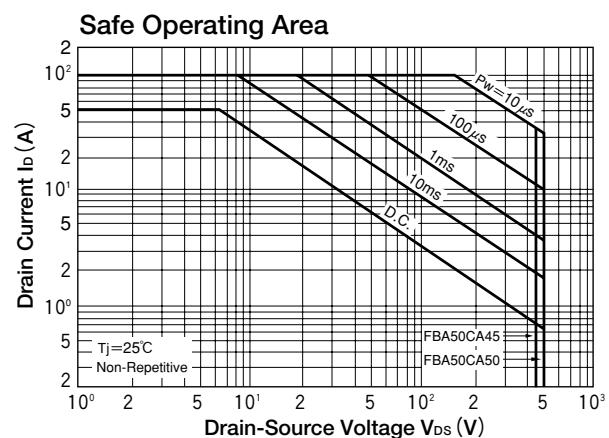
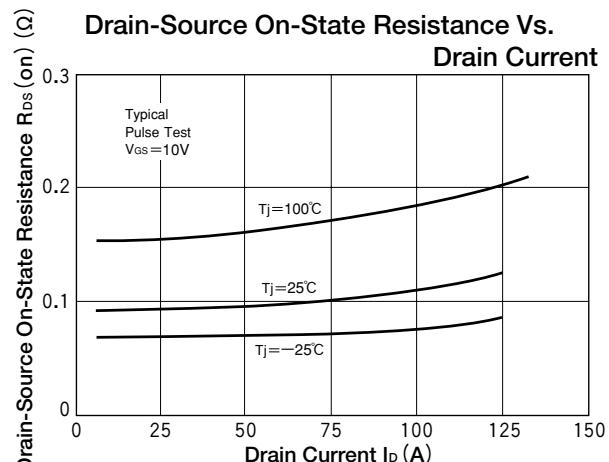
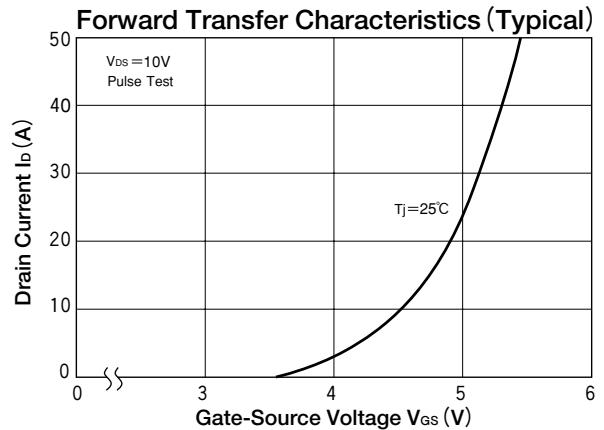
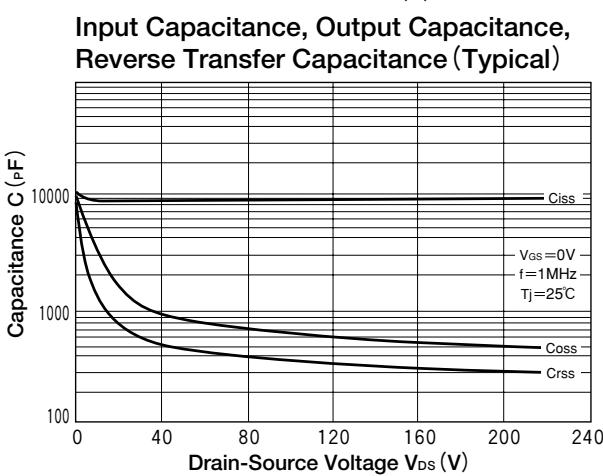
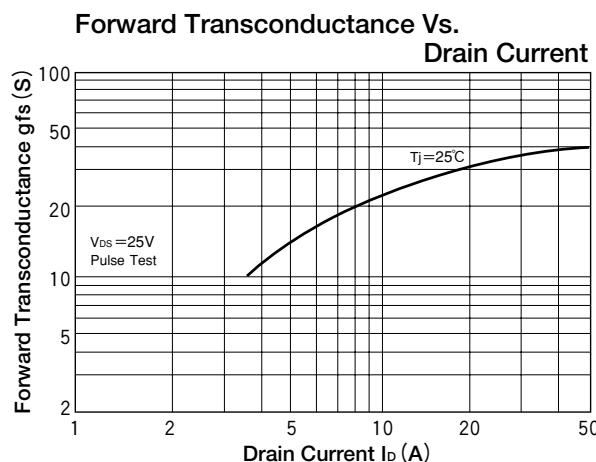
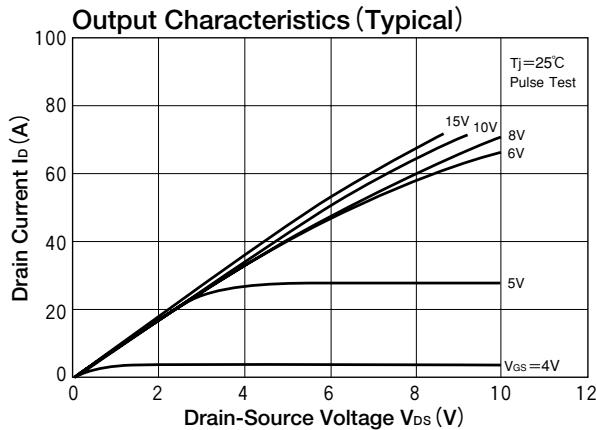
■ Maximum Ratings

Symbol	Item	Conditions	Ratings		Unit
			FBA50CA45	FBA50CA50	
V_{DSS}	Drain-Source Voltage		450	500	V
V_{GSS}	Gate-Source Voltage		± 20		V
I_D	Drain Current	D.C.	50		A
	Pulse		100		
$-I_D$	Source Current		50		A
P_T	Total Power Dissipation	$T_c=25^\circ\text{C}$	320		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)	4.7 (48)		$\text{N}\cdot\text{m}$ (kgf·cm)
		Terminal (M5)	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
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	FBA50CA45 FBA50CA50	450			V
			500			
$V_{GS(\text{th})}$	Gate-Source Threshold Voltage	$V_{DS}=V_{GS}$, $I_D=10\text{mA}$	1.0		5.0	V
$R_{DS(\text{on})}$	Drain-Source On-State Resistance	$I_D=25\text{A}$, $V_{GS}=15\text{V}$			120	$\text{m}\Omega$
$V_{DS(\text{on})}$	Drain-Source On-State Voltage	$I_D=25\text{A}$, $V_{GS}=15\text{V}$			3.0	V
g_{fs}	Forward Transconductance	$V_{DS}=10\text{V}$, $I_D=25\text{A}$		30		S
C_{iss}	Input Capacitance	$V_{GS}=0V$, $V_{DS}=25\text{V}$, $f=1.0\text{MHz}$			10000	pF
C_{oss}	Output Capacitance	$V_{GS}=0V$, $V_{DS}=25\text{V}$, $f=1.0\text{MHz}$			1900	pF
C_{rss}	Reverse Transfer Capacitance	$V_{GS}=0V$, $V_{DS}=25\text{V}$, $f=1.0\text{MHz}$			750	pF
$t_d(\text{on})$	Turn-on Delay Time	$R_L=12\Omega$, $R_{GS}=50\Omega$, $V_{GS}=15\text{V}$ $I_D=25\text{A}$, $R_G=5\Omega$		60		ns
t_r				60		
$t_d(\text{off})$				650		
t_f				130		
V_{SDS}	Diode Forward Voltage	$-I_D=25\text{A}$, $V_{GS}=0V$			1.5	V
t_{rr}	Reverse Recovery Time	$-I_D=25\text{A}$, $V_{GS}=0V$, $di/dt=100\text{A}/\mu\text{s}$		700		ns
$R_{th(j-c)}$	Thermal Resistance				0.39	$^\circ\text{C}/\text{W}$



FBA50CA45/50

