

FBA75BA45/50

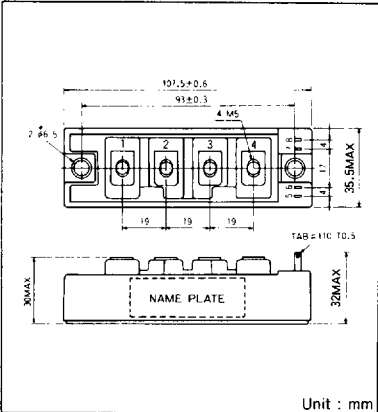
UL ; E76102 (M)

FBA75BA is a dual power MOSFET module designed for fast switching applications of high voltage and current. (2 devices are separated.) The mounting base of the module is electrically isolated from semiconductor elements for simple heatsink construction.

- $I_D = 75A$, $V_{DSS} = 450/500V$
- Suitable for high speed switching applications
- Low ON resistance.
- Wide Safe Operating Areas
- Isolated mounting base

(Applications)

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



Unit : mm
 $T_j = 25^{\circ}C$

Maximum Ratings

Symbol	Item		Conditions	Ratings		Unit
				FBA75BA45	FBA75BA50	
V _{DSS}	Drain-Source Voltage			450	500	V
V _{GSS}	Gate-Source Voltage			± 20		V
I _D	Drain Current	DC		75		A
I _{DP}		Pulse		150		
− I _D	Reverse Drain Current			75		A
P _T	Total Power Dissipation		T _c = 25°C	400		W
T _j	Channel Temperature			150		°C
T _{stg}	Storage Temperature			− 40~+ 125		°C
V _{iso}	Isolation Voltage(R.M.S)		A.C. 1minute	2500		V
	Mounting Torque	(M6)	Recommended Value 20~40kgf•cm	50		kgf•cm
		Terminal (M5)	Recommended Value 15~24kgf•cm	30		
	Mass		Typical value	220		g

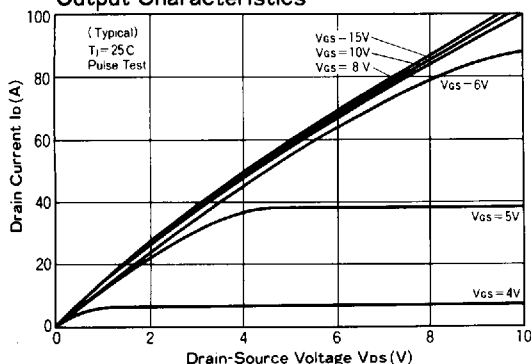
Electrical Characteristics

$T_j = 25^{\circ}C$

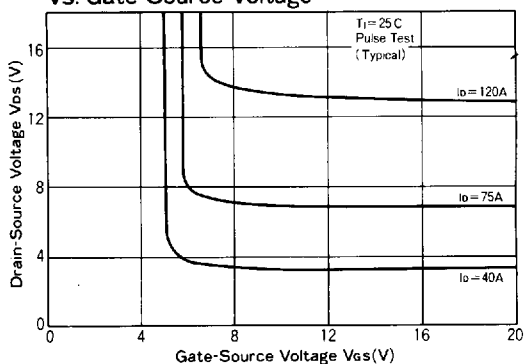
Symbol	Item		Conditions	Ratings			Unit
				Min.	Typ.	Max.	
I_{GSS}	Gate Leakage Current		$V_{GS} = \pm 20V$, $V_{DS} = 0V$			± 500	nA
I_{OSS}	Zero Gate Voltage Drain Current		$V_{GS} = 0V$, $V_{DS} = 500V$			1.0	mA
$V_{(BR)DSS}$	Drain-Source	FBA75BA45	$V_{GS} = 0V$, $I_D = 1mA$	450			V
	Breakdown Voltage	FBA75BA50		500			
$V_{GS(th)}$	Gate-Source Threshold Voltage		$V_{DS} = V_{GS}$, $I_D = 10mA$	1.5		4.0	V
$R_{DS(on)}$	Drain-Source On-State Resistance		$I_D = 40A$, $V_{GS} = 15V$			0.1	Ω
$V_{DS(on)}$	Drain-Source On-State Voltage		$I_D = 40A$, $V_{GS} = 15V$			4.0	V
g_{fs}	Forward Transconductance		$V_{DS} = 10V$, $I_D = 25A$		40		S
C_{iss}	Input Capacitance		$V_{GS} = 0V$, $V_{DS} = 25V$, $f = 1.0MHz$			12000	pF
C_{oss}	Output Capacitance		$V_{GS} = 0V$, $V_{DS} = 25V$, $f = 1.0MHz$			2400	pF
C_{rss}	Reverse Transfer Capacitance		$V_{GS} = 0V$, $V_{DS} = 25V$, $f = 1.0MHz$			800	pF
$t_{d(on)}$	Switching Time	Turn-on Delay Time	$R_L = 7.5\Omega$, $R_{GS} = 50\Omega$, $V_{GS} = 15V$, $I_D = 40A$, $R_G = 10\Omega$		60		ns
t_r		Rise Time			120		
$t_{d(off)}$		Turn-off Delay Time			700		
t_f		Fall Time			210		
V_{SDS}	Source-Drain 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	$^{\circ}C/W$

7991243 0002228 619

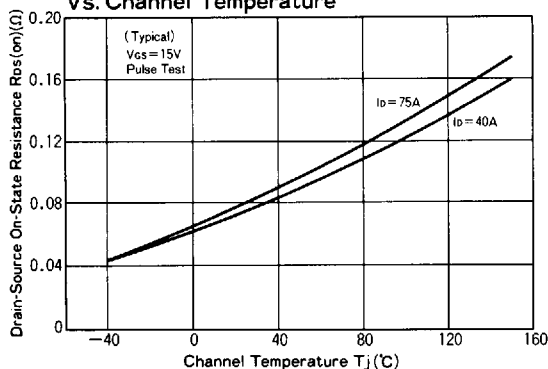
Output Characteristics



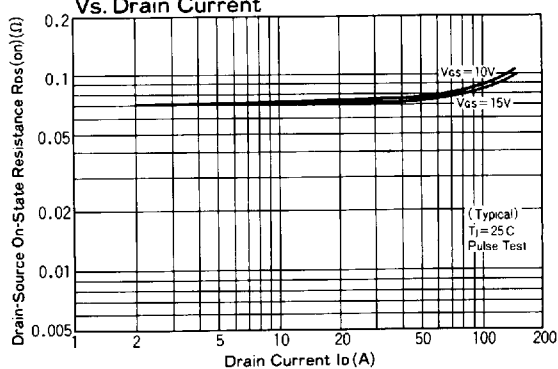
Drain-Source Voltage Vs. Gate-Source Voltage



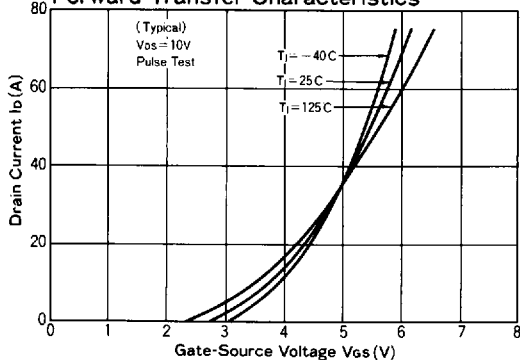
Drain-Source On-State Resistance Vs. Channel Temperature



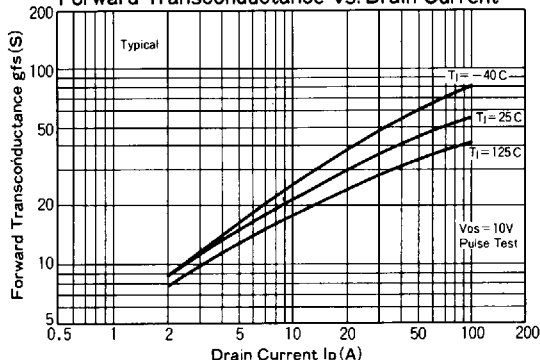
Drain-Source On-State Resistance Vs. Drain Current



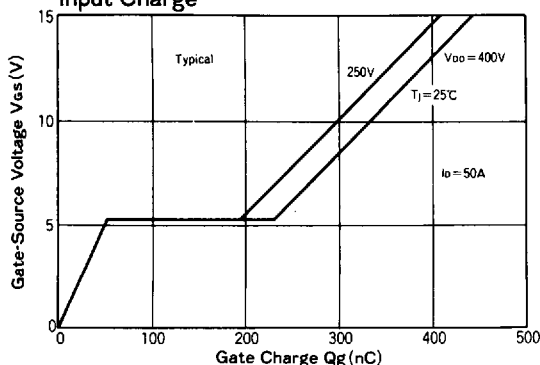
Forward Transfer Characteristics



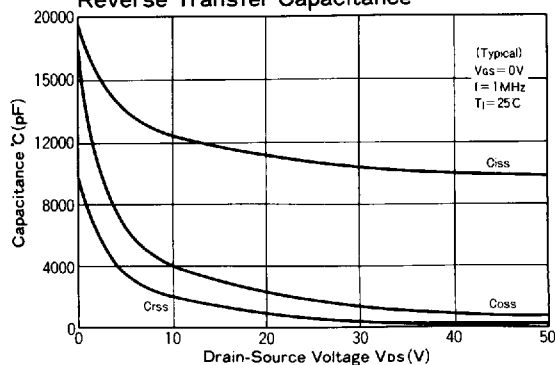
Forward Transconductance Vs. Drain Current



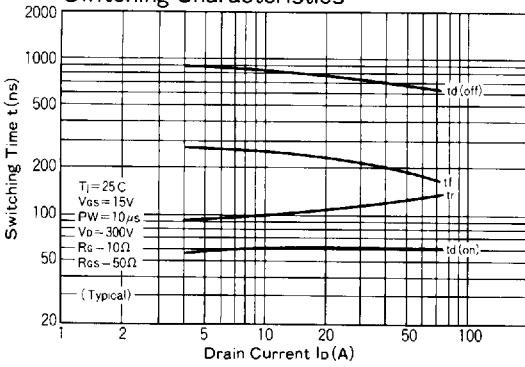
Input Charge



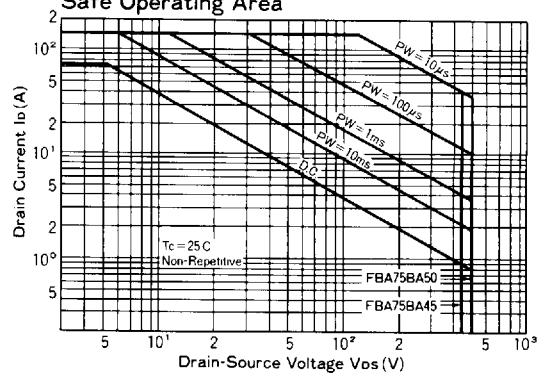
Input Capacitance, Output Capacitance, Reverse Transfer Capacitance



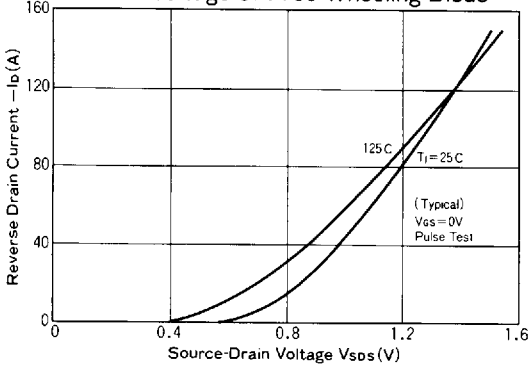
Switching Characteristics



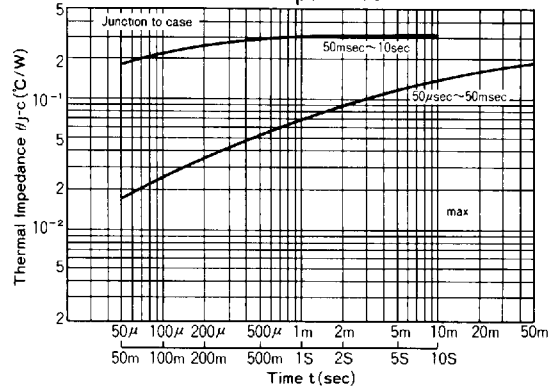
Safe Operating Area



Forward Voltage of Free Wheeling Diode



Transient Thermal Impedance



Normalized Transient Thermal Impedance Vs. Pulse Width

