

WBFBP-03A Plastic-Encapsulate MOSFETS

MOSFET(N-Channel)

DESCRIPTION

High cell density, DMOS technology. These products have been designed to minimize on-state resistance while provide rugged, reliable, and fast switching performance. They can be used in most applications requiring up to 400mA DC and can deliver pulsed currents up to 2A. These products are particularly suited for low voltage, low current applications such as small servo motor control, power MOSFET gate drivers, and other switching applications.

FEATURES

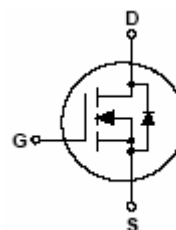
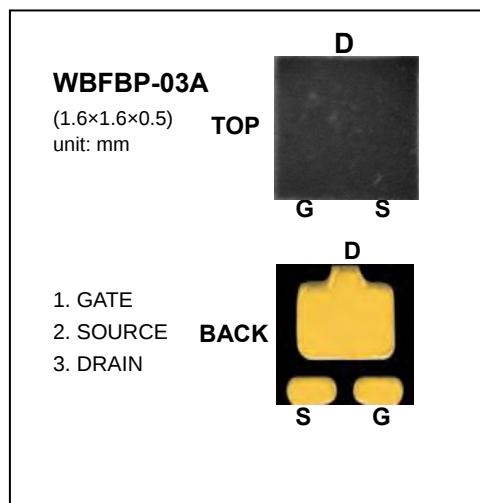
High density cell design for low $R_{DS(ON)}$
 Voltage controlled small signal switch
 Rugged and reliable
 High saturation current capability

APPLICATION

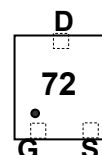
N-Channel Enhancement Mode Field Effect Transistor
 For portable equipment:(i.e. Mobile phone,MP3, MD,CD-ROM,
 DVD-ROM, Note book PC, etc.)

Pb-Free package is available

RoHS product for packing code suffix "G"
 Halogen free product for packing code suffix "H"



MARKING: 72



MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{DS}	Drain-Source Voltage	60	V
V_{GSS}	Gate-Source Voltage - Continuous	± 20	V
I_D	Maximum Drain Current - Pulsed	115	mA
P_D	Power Dissipation	150	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	833	$^{\circ}\text{C}/\text{W}$
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$



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ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=10\mu A$	60			V
		$V_{GS}=0V, I_D=3mA$	60			
Gate-Threshold Voltage*	$V_{(GS)th}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1			
Gate-Body Leakage	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 25V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V, V_{GS}=0V$			1	μA
		$V_{DS}=60V, V_{GS}=0V, T_j=125^\circ C$			500	
On-state Drain Current*	$I_{D(ON)}$	$V_{GS}=10V, V_{DS}=7V$	500			mA
Drain-Source On-Resistance*	$R_{DS(on)}$	$V_{GS}=10V, I_D=500mA$	1		7.2	Ω
		$V_{GS}=5V, I_D=50mA$	1		7.2	
Drain-Source On- Voltage *	$V_{DS(on)}$	$V_{GS}=10V, I_D=500mA$			3.75	V
		$V_{GS}=5V, I_D=50mA$			0.375	
Forward Tranconductance*	g_{fs}	$V_{DS}=10V, I_D=200mA$	80			ms
Diode Forward Voltage	V_{SD}	$I_S=115mA, V_{GS}=0V$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25V, V_{GS}=0V, f=1MHz$			50	pF
Output Capacitance	C_{oss}				25	
Reverse Transfer Capacitance	C_{rss}				5	
Total Gate Charge	Q_g	$V_{DS}=30V, V_{GS}=10V, I_D=250mA$			1	nC
Gate-Source Charge	Q_{gs}				25	
Gate-Drain Charge	Q_d				5	

*Pulse test , pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

SWITCHING TIME

Turn-on Time	$t_{d(on)}$	$V_{DD}=25V, R_G=25\Omega$ $I_D=500mA, V_{GEN}=10V$ $R_L=50\Omega$			20	ns
Turn-off Time	$t_{d(off)}$				40	