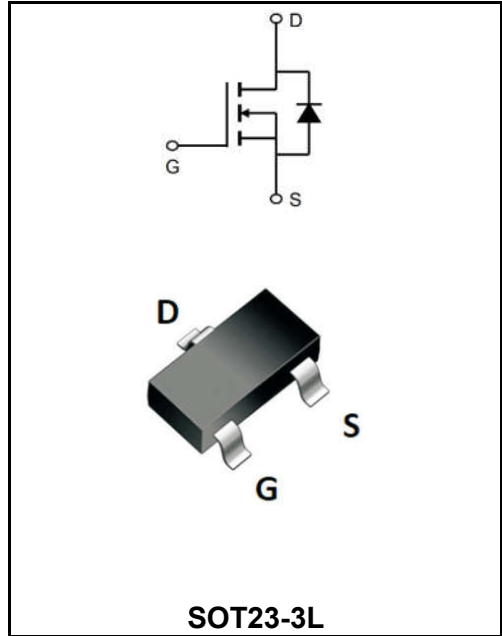


20V N-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

$I_D$	8A
$V_{DSS}$	20V
$R_{DS(on)-typ}(@V_{GS}=4.5V)$	< 12mΩ (Type:8.5 mΩ)



Application

- ◆ Battery protection
- ◆ Load switch
- ◆ Uninterruptible power supply

Product Specification Classification

Part Number	Package	Marking	Pack
YFW2320MI	SOT23-3L	2320	3000PCS/Tape

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbols	Value	Units
Drain-Source Voltage	$V_{DS}$	20	V
Gate - Source Voltage	$V_{GS}$	±12	V
Drain Current-Continuous	$I_D$	8	A
Drain Current-Continuous(Tc=100°C)	$I_{D(100°C)}$	4.5	A
Pulsed Drain Current	$I_{DM}$	75	A
Maximum Power Dissipation	$P_D$	12	W
Single pulse avalanche energy	$E_{AS}$	1	mJ
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	°C
Thermal Resistance, Junction-to-Case	$R_{θJC}$	3.8	°C/W

**Maximum Ratings at Tc=25°C unless otherwise specified**

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	$BV_{DSS}$	20	22	-	V
Zero Gate Voltage Drain Current	$V_{DS}=20V, V_{GS}=0V$	$I_{DSS}$	-	-	1	$\mu A$
Gate-Body Leakage Current	$V_{GS}=\pm 12V, V_{DS}=0V$	$I_{GSS}$	-	-	$\pm 100$	nA
Gate -Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	$V_{GS(th)}$	0.5	0.65	1.2	V
Drain-Source On-State Resistance	$V_{GS}=4.5V, I_D=6A$	$R_{DS(ON)}$	-	8.5	12	m $\Omega$
	$V_{GS}=2.5V, I_D=3A$		-	10	15	
Forward Transconductance	$V_{DS}=5V, I_D=20A$	$g_{FS}$	10	-	-	S
Input Capacitance	$V_{DS}=10V$ $V_{GS}=0V$ $f=1.0MHz$	$C_{iss}$	-	625	-	pF
Output Capacitance		$C_{oss}$	-	162	-	
Reverse Transfer Capacitance		$C_{rss}$	-	105	-	
Turn-on delay time	$V_{GS}=10V$ $V_{DS}=10V$ $R_L=0.5\Omega$ $R_{GEN}=3\Omega$	$t_{d(on)}$	-	4.5	-	ns
Turn-on Rise Time		$T_r$	-	9.2	-	
Turn-Off Delay Time		$t_{d(OFF)}$	-	18.7	-	
Turn-Off Fall Time		$t_f$	-	3.3	-	
Total Gate Charge	$V_{GS}=10V$ $V_{DS}=10V$ $I_D=20A$	$Q_g$	-	15	-	nC
Gate-Source Charge		$Q_{gs}$	-	1.8	-	
Gate-Drain Charge		$Q_{gd}$	-	2.8	-	
Diode Forward Voltage <sup>(Note 3)</sup>	$V_{GS}=0V, I_S=25A$	$V_{SD}$	-	-	1.2	V
Diode Forward Current <sup>(Note 2)</sup>		$I_S$	-	-	25	A
Reverse Recovery Time	$T_J = 25^\circ C, I_F = 20A$ di/dt = 100A/ $\mu s$ (Note3)	$t_{rr}$	-	18	-	ns
Reverse Recovery Charge		$Q_{rr}$	-	9.5	-	nC
Forward Turn-On Time	Intrinsic turn-on time is negligible (turn-on is dominated by LS+LD)	$t_{on}$	-	-	-	-

**Notes:**

- 1、Repetitive Rating: Pulse width limited by maximum junction temperature.
- 2、Surface Mounted on FR4 Board,  $t \leq 10$  sec.
- 3、Pulse Test: Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$ .
- 4、Guaranteed by design, not subject to production

Ratings and Characteristic Curves

Typical Characteristics

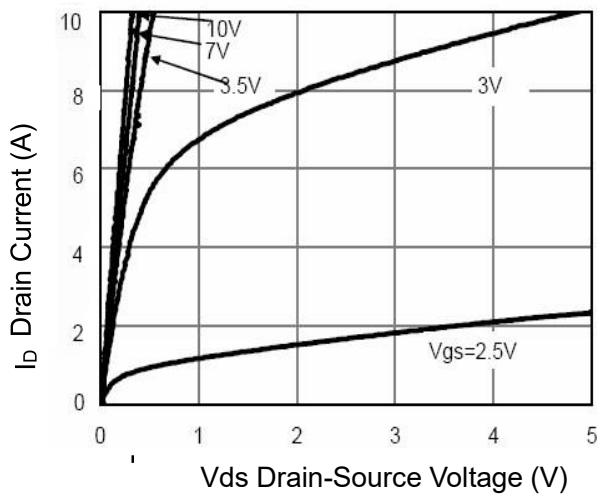


Figure 1 Output Characteristics

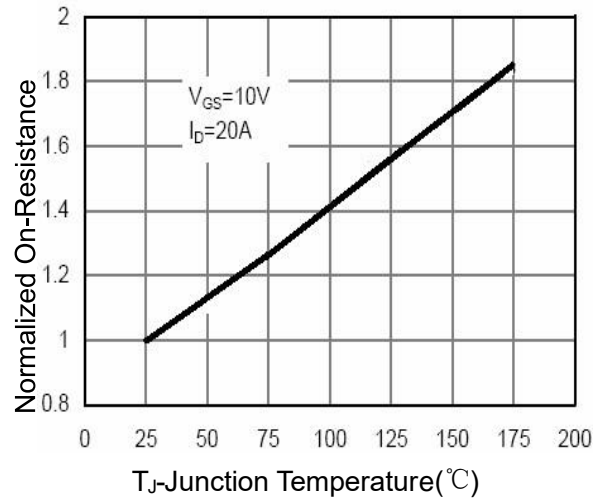


Figure 4 Rdson-Junction Temperature

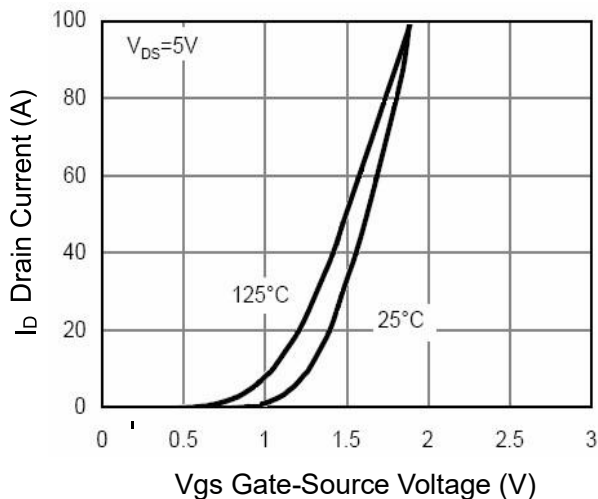


Figure 2 Transfer Characteristics

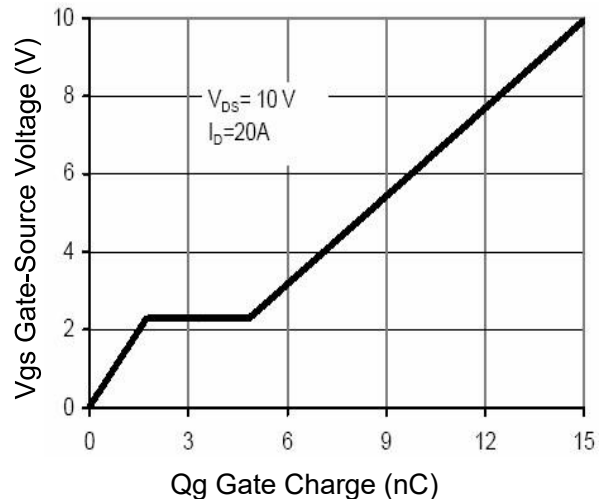


Figure 5 Gate Charge

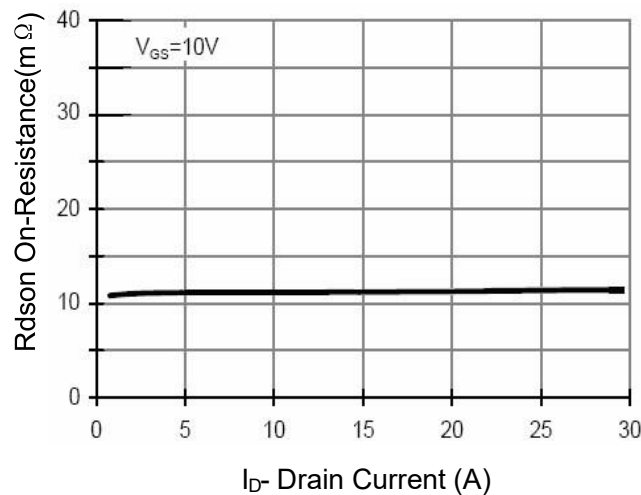


Figure 3 Rdson-Drain Current

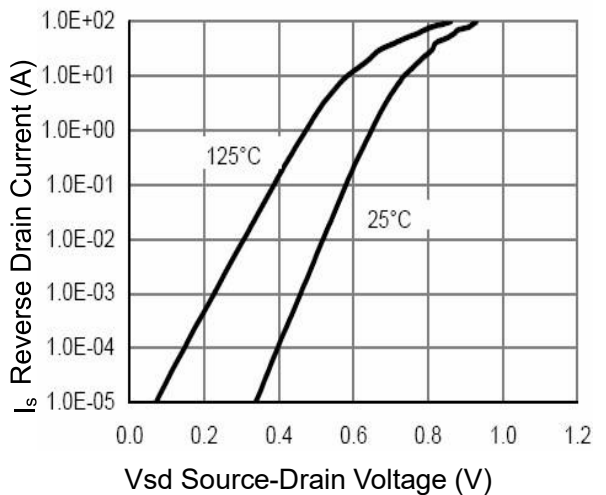
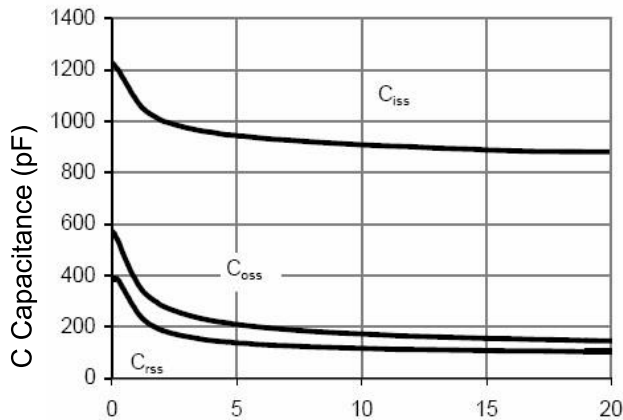
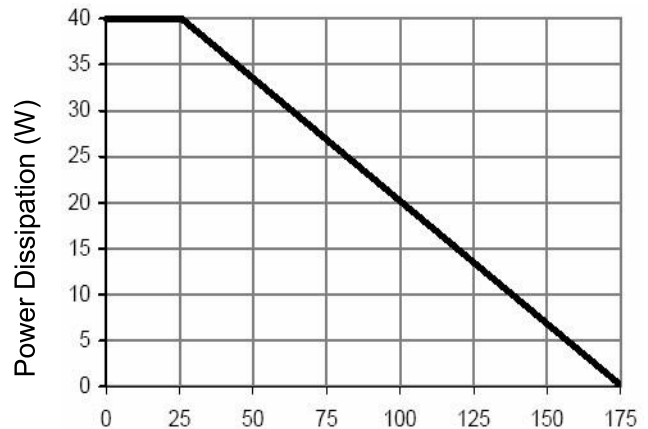


Figure 6 Source- Drain Diode Forward

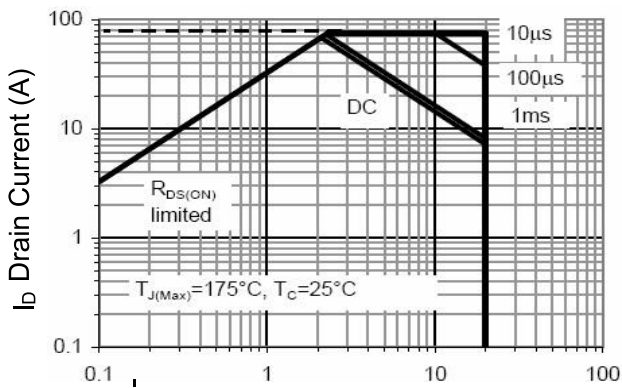
Ratings and Characteristic Curves



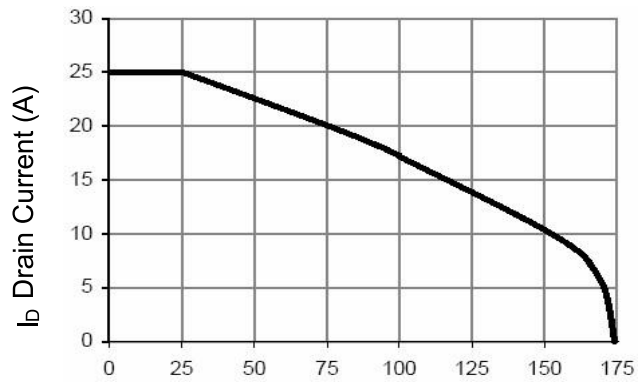
Vds Drain-Source Voltage (V)  
**Figure 7 Capacitance vs Vds**



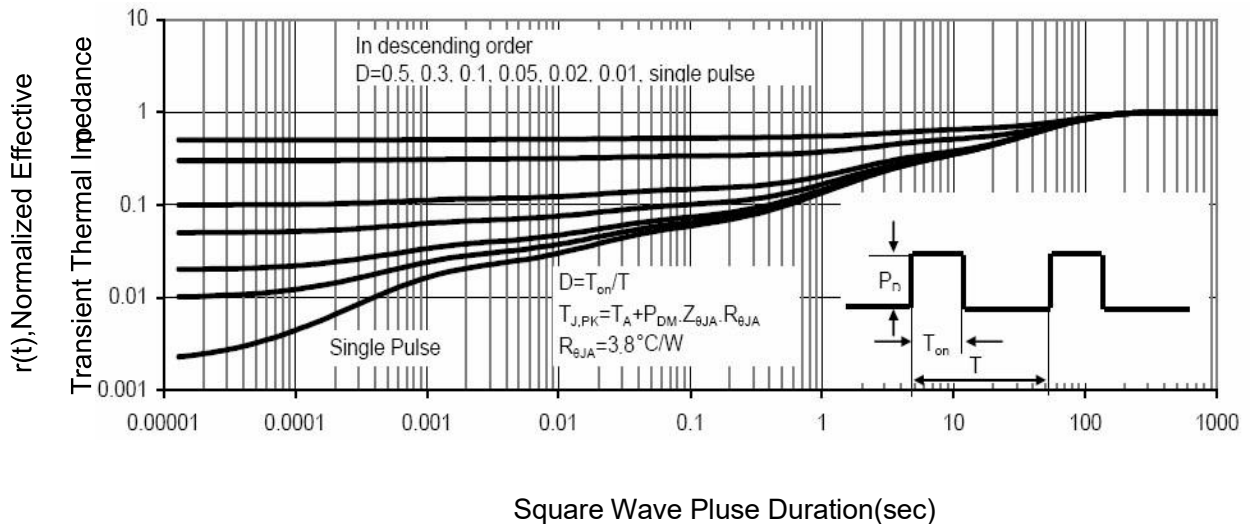
T<sub>J</sub>-Junction Temperature(°C)  
**Figure 9 Power De-rating**



Vds Drain-Source Voltage (V)  
**Figure 8 Safe Operation Area**

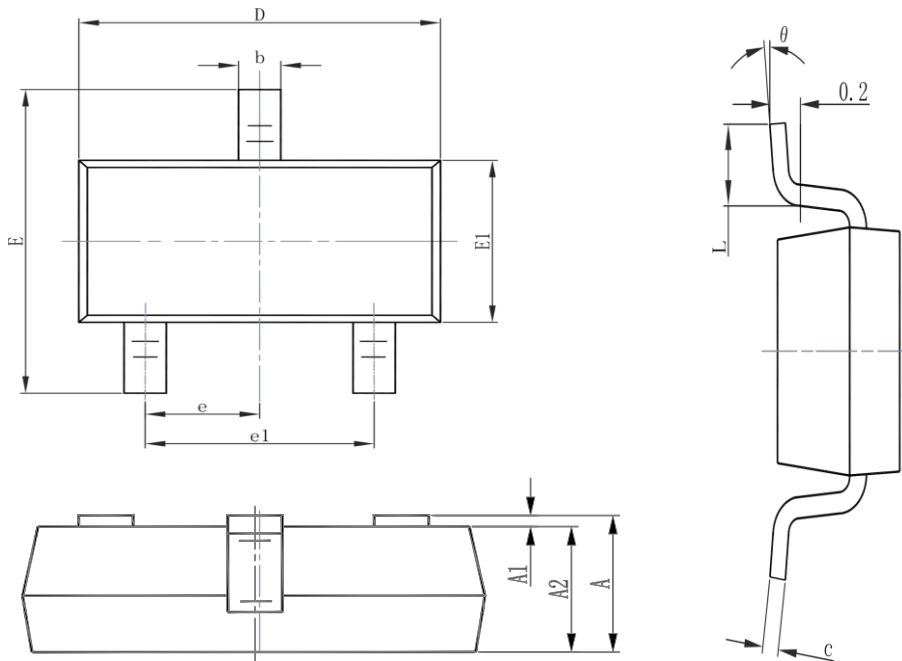


T<sub>J</sub>-Junction Temperature(°C)  
**Figure 10 Current De-rating**



Square Wave Pluse Duration(sec)  
**Figure 11 Normalized Maximum Transient Thermal Impedance**

**SOT23-3L**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

单击下面可查看定价，库存，交付和生命周期等信息

[>>YFW\(佑风微\)](#)