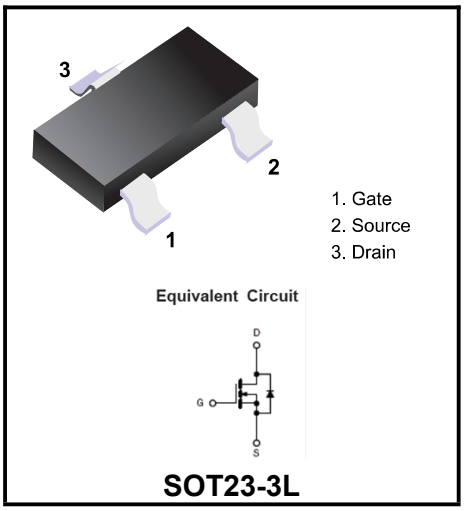
100V N-Channel Enhancement Mode MOSFET

MAIN CHARACTERISTICS

I_D	8A
V_{DSS}	100V
R_{DSON}-typ(@V_{GS}=10V)	＜85mΩ
R_{DSON}-typ(@V_{GS}=4.5V)	＜120mΩ



SOT23-3L

Features & Applications

- Advanced high cell density Trench technology
- Super Low Gate Charge
- Green Device Available
- Secondary Synchronous Rectifier
- LED TV Back Light

Mechanical Data

- SOT23-3L Small Outline Plastic Package.
- Epoxy UL: 94V-0.
- Mounting Position: Any.

Product Specification Classification

Part Number	Package	Marking	Pack
YFW8N10MI	SOT23-3L	8N10	3000PCS/Tape

Maximum Ratings & Thermal Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified.

Parameters	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current(note1)	I_D	8	A
Drain Current-Pulsed (note 1)	I_{DM}	28	
Power Dissipation(note 5)	P_D	450	mW
Junction Temperature	T_j	150	℃
Storage Temperature	T_{stg}	-55-+150	℃
Thermal Resistance From Junction to Ambient (note 5)	$R_{\theta JA}$	300	℃/W

Electrical Characteristics

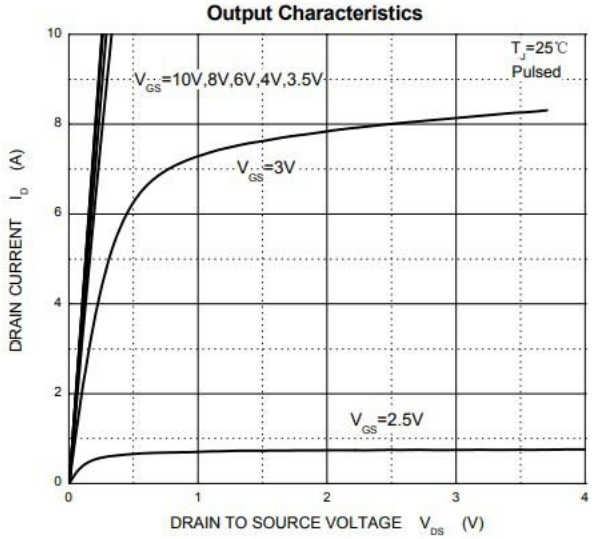
Ratings at 25℃ ambient temperature unless otherwise specified.

Parameter	Symbols	Test Condition	Limits			Unit
			Min	Typ	Max	
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250uA	100	-	-	V
Zero Gate Voltage Drain current	I_{DSS}	V_{DS}=80V, V_{GS}=0V	-	-	1	uA
Gate-body Leakage	I_{GSS}	V_{DS}=0V, V_{GS}=±20V	-	-	±100	nA
Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=7A			85	mΩ
		V_{GS}=4.5V, I_D=5A	-	-	120	mΩ
Forward trans conductance	g_{fs}	V_{DS}=5V, I_D=7A	-	22	-	S
Gate-Threshold voltage*	$V_{GS\ (th)}$	V_{DS}=V_{GS}, I_D=250uA	1.2	-	3.0	V
Input capacitance	C_{iss}	V_{DS}=15V, V_{GS}=0V,f=1MHz	-	-	4960	pF
Output capacitance	C_{oss}		-	-	300	
Reverse Transfer capacitance	C_{rss}		-	-	268	
Gate resistance	Rg	V_{DS}=0V, V_{GS}=0V,f=1MHz	-	2.6	-	Ω
Turn-on Time	$t_{d(on)}$	V_{GS}=50V, R_L=6.7Ω, V_{DS}=10V, R_{GEN}=3.3Ω I_D=7A	-	11.4	-	ns
Rise time	t_r		-	27.2	-	
Turn-off Time	$t_{d(off)}$		-	34.7	-	
Fall time	t_f		-	16.6	-	
Body diode voltage	V_{SD}	I_S=1A, V_{GS}=0V	-	-	1.2	V

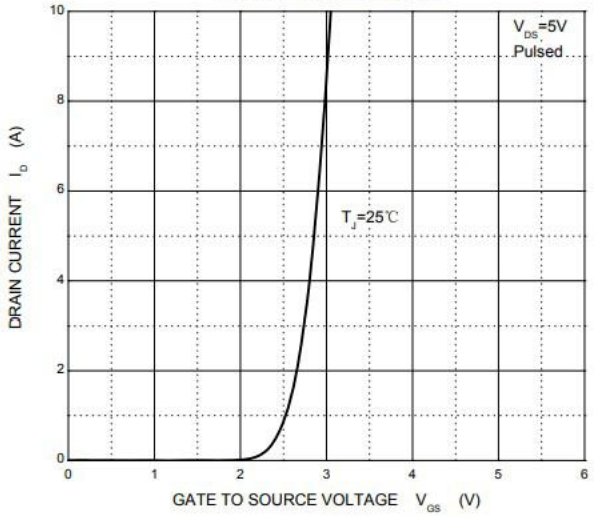
Notes:
1. Tc=25℃ Limited only by maximum temperature allowed.
2. Pw≤10us,Duty cycle≤1%.
3. Pulse Test: Pulse Width≤300us,duty cycle≤2%.
4. Guaranteed by design, not subject to production.
5. The value of R θ JA is measured with the device mounted on 1 in 2 fr-4board with 2oz. Copper, in a still air environment with Ta=25℃, t≤10sec.

Typical characteristics

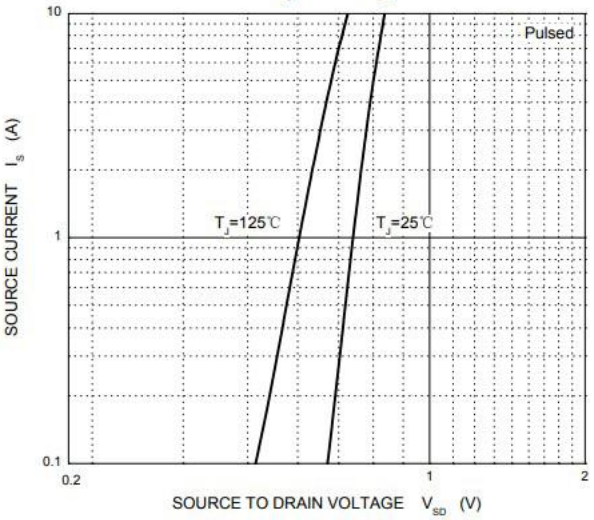
Output Characteristics



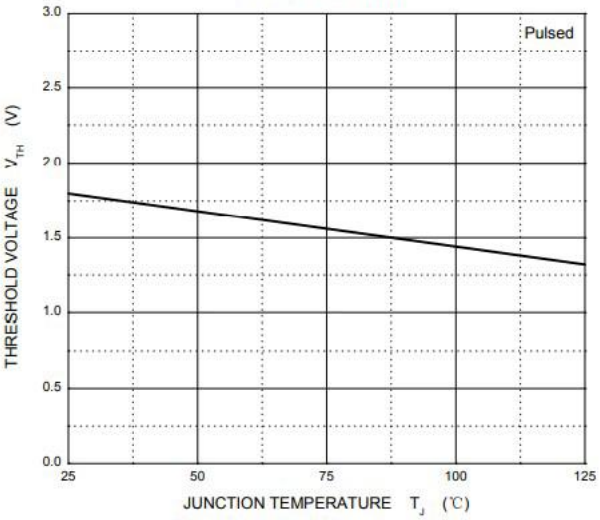
Transfer Characteristics



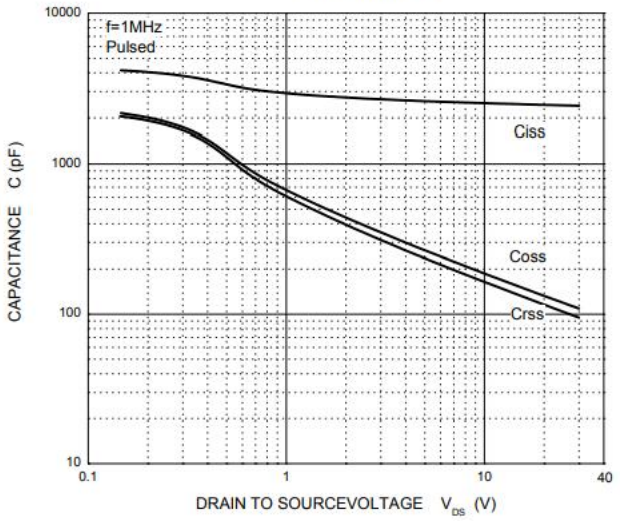
I_S — V_{SD}



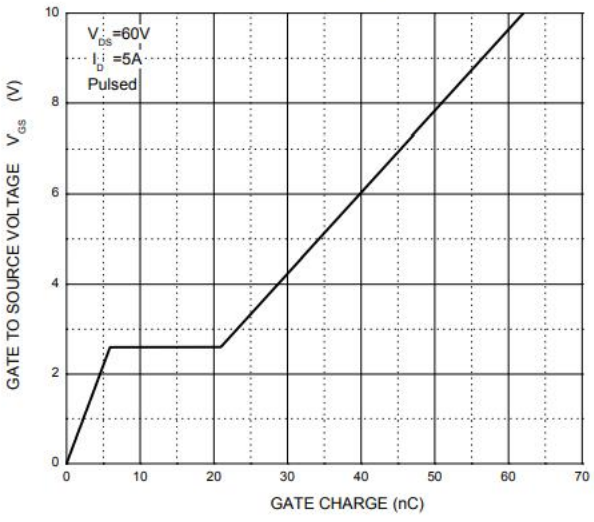
Threshold Voltage



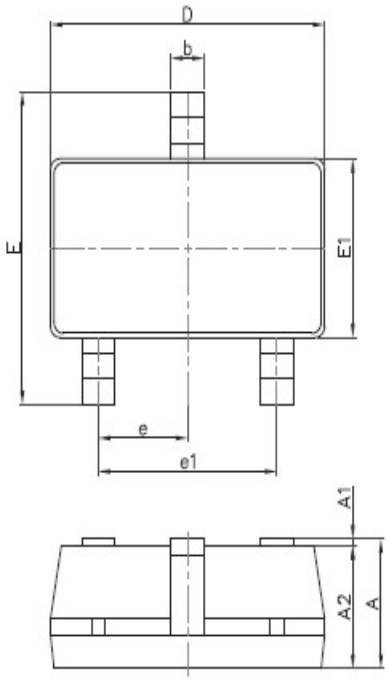
Capacitances

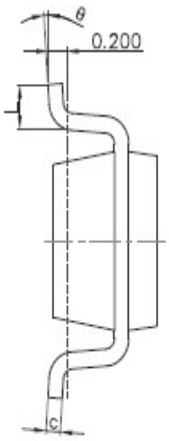


Gate Charge



Package Outline SOT23-3L

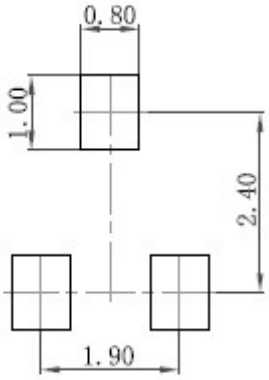




Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)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

Precautions: PCB Design

Recommended land dimensions for SOT-23-3L diode. Electrode patterns for PCBs



Note:
1.Controlling dimension:In millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.