

100V N-Channel Enhancement Mode MOSFET
MAIN CHARACTERISTICS

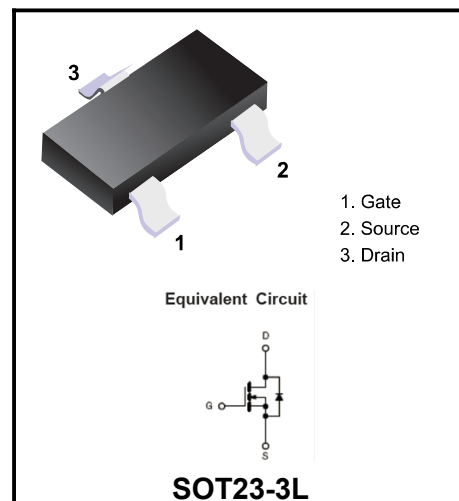
I_D	8A
V_{DS}	100V
$R_{DS(on)-typ}(@V_{GS}=10V)$	$<85m\Omega$
$R_{DS(on)-typ}(@V_{GS}=4.5V)$	$<120m\Omega$

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°C 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	°C
Storage Temperature	T_{stg}	-55-+150	°C
Thermal Resistance From Junction to Ambient (note 5)	$R_{\theta JA}$	300	°C/W

Electrical Characteristics

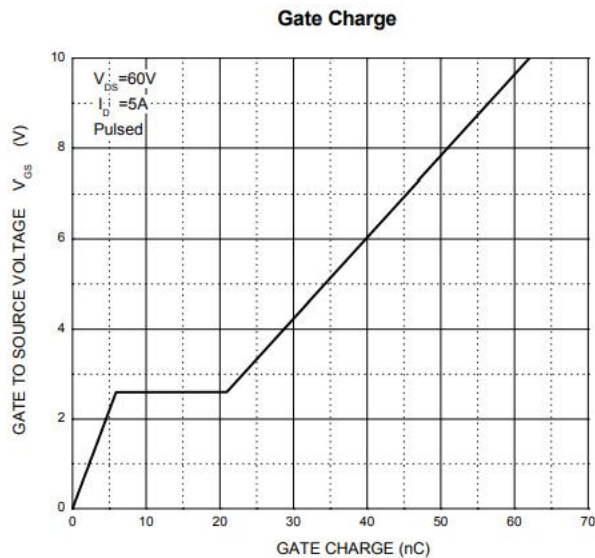
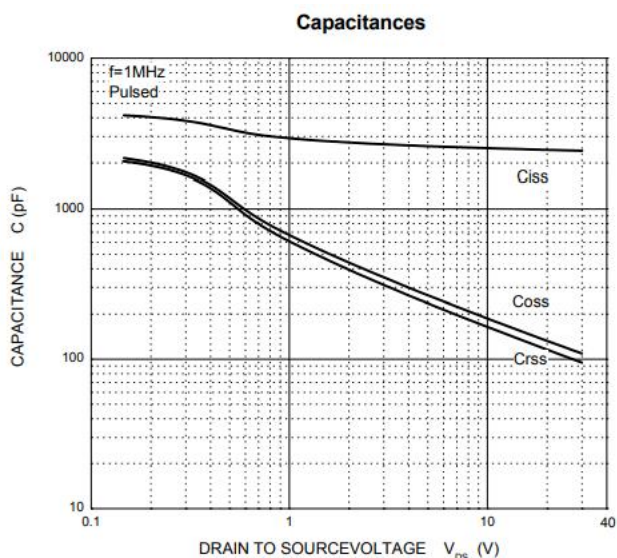
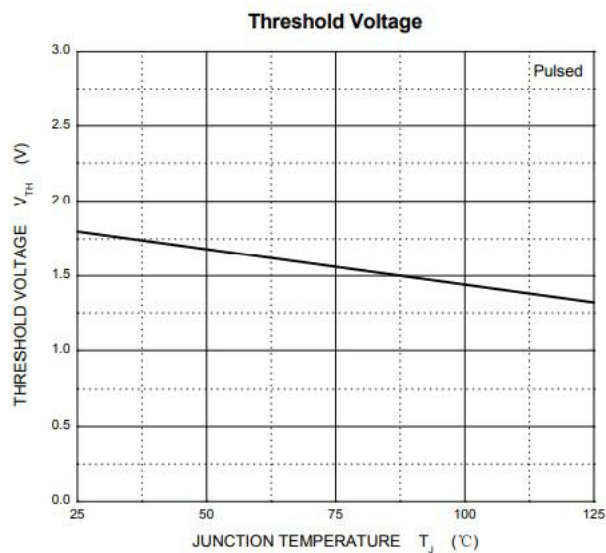
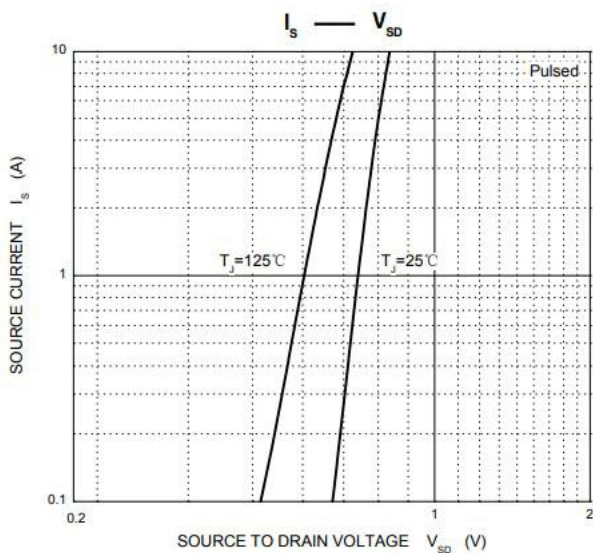
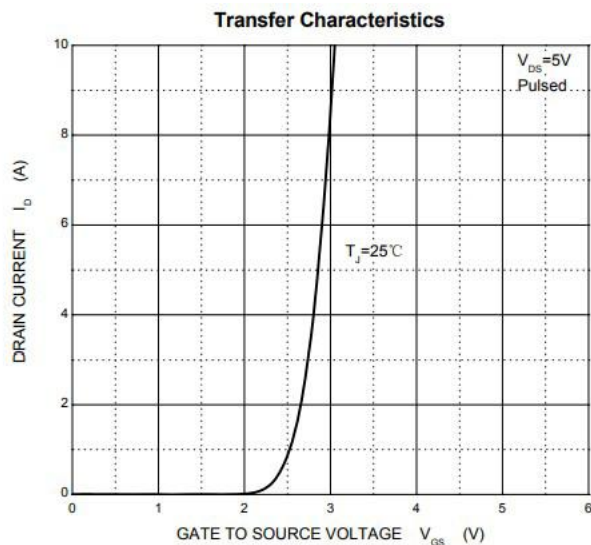
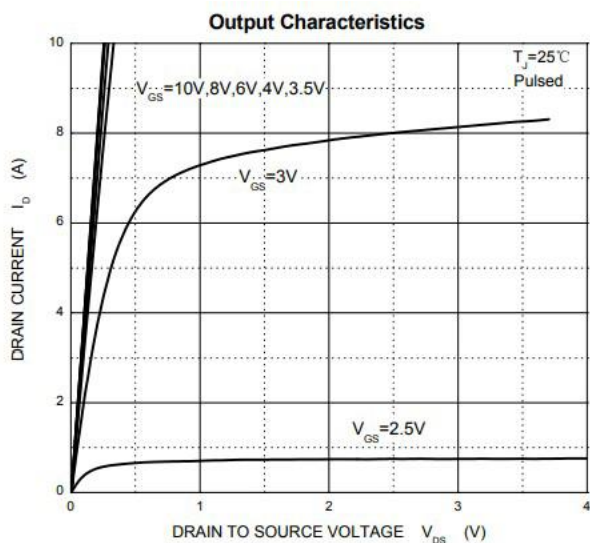
Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	Test Condition	Limits			Unit
			Min	Typ	Max	
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	100	-	-	V
Zero Gate Voltage Drain current	I_{DSS}	$V_{DS}=80V, V_{GS}=0V$	-	-	1	μA
Gate-body Leakage	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$	-	-	± 100	nA
Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=7A$			85	m Ω
		$V_{GS}=4.5V, I_D=5A$	-	-	120	m Ω
Forward trans conductance	g_{fs}	$V_{DS}=5V, I_D=7A$	-	22	-	S
Gate-Threshold voltage*	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	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	R_g	$V_{DS}=0V, V_{GS}=0V, f=1MHz$	-	2.6	-	Ω
Turn-on Time	$t_{d(on)}$	$V_{GS}=50V, R_L=6.7\Omega, V_{DS}=10V, R_{GEN}=3.3\Omega, I_D=7A$	-	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:

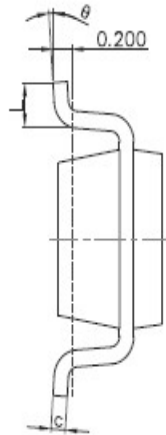
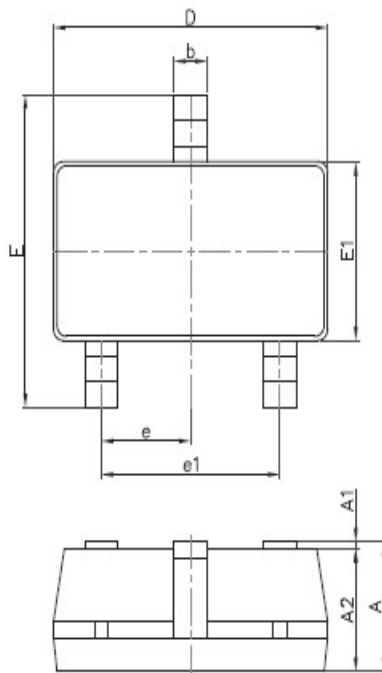
1. $T_c=25^\circ C$ Limited only by maximum temperature allowed.
2. $P_w \leq 10\mu s$, Duty cycle $\leq 1\%$.
3. Pulse Test: Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production.
5. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in 2 fr-4board with 2oz. Copper, in a still air environment with $T_a=25^\circ C, t \leq 10sec$.

Typical characteristics



Package Outline

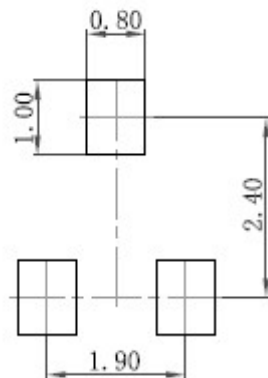
SOT23-3L



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: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

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