

General Description

The MY2336 is the high cell density trench N-CH MOSFET, which provides excellent $R_{DS(ON)}$ and efficiency for most of the small power switching and load switch applications.

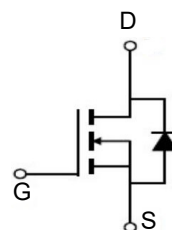
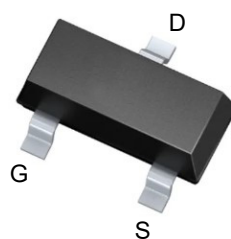


Features

V_{DSS}	20	V
I_D	4.2	A
$R_{DS(ON)}$ (at $V_{GS}=4.5V$)	35	m Ω
$R_{DS(ON)}$ (at $V_{GS}=2.5V$)	50	m Ω

Application

- Green Device Available
- Super Low Gate Charge
- Excellent Cdv/dt effect decline



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
MY2336	SOT-23	MY2336	3000

Absolute Maximum Ratings ($T_A=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous	I_D	4.2	A
Drain Current-Pulsed (Note 1)	I_{DM}	33	A
Maximum Power Dissipation	P_D	1.25	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 To 150	$^{\circ}C$
Thermal Resistance, Junction-to-Ambient (Note 2)	$R_{\theta JA}$	140	$^{\circ}C/W$

Electrical Characteristics ($T_J=25\text{ }^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V I _D =250μA	20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V,V _{GS} =0V			1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±12V,V _{DS} =0V			±100	nA
ON CHARACTERISTICS (Note 3)						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} ,I _D =250μA	0.6		1.2	V
Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} =2.5V, I _D =3.6A		50	80	mΩ
		V _{GS} =4.5V, I _D =4.2A		35	45	mΩ
Forward Transconductance	g _{FS}	V _{DS} =10V,I _D =4A		8		S
DYNAMIC CHARACTERISTICS (Note4)						
Input Capacitance	C _{iss}	V _{DS} =15V,V _{GS} =0V, F=1.0MHz		700		PF
Output Capacitance	C _{oss}			100		PF
Reverse Transfer Capacitance	C _{rss}			90		PF
SWITCHING CHARACTERISTICS (Note 4)						
Turn-on Delay Time	t _{d(on)}	V _{DD} =10V, R _L = 2.8 Ω V _{GS} =4.5V,R _{GEN} =6Ω, I _D =3.6A,		7		nS
Turn-on Rise Time	t _r			50		nS
Turn-Off Delay Time	t _{d(off)}			26		nS
Turn-Off Fall Time	t _f			10		nS
Total Gate Charge	Q _g	V _{DS} =10V,I _D =4.2A,V _{GS} =4.5V		9		nC
Gate-Source Charge	Q _{gs}			2		nC
Gate-Drain Charge	Q _{gd}			1.8		nC
DRAIN-SOURCE DIODE CHARACTERISTICS						
Diode Forward Voltage (Note 3)	V _{SD}	V _{GS} =0V,I _S =1.3A			1.2	V

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 testing.

Typical Electrical and Thermal Characteristics

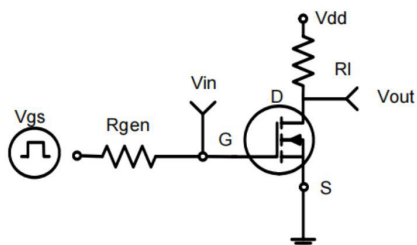


Figure 1: Switching Test Circuit

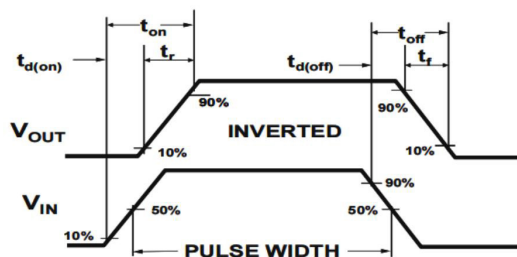


Figure 2: Switching Waveforms

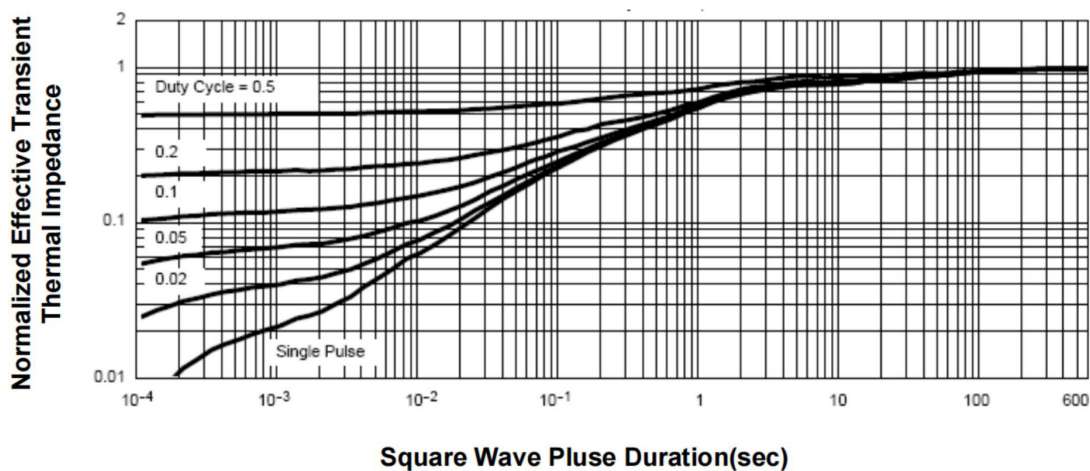
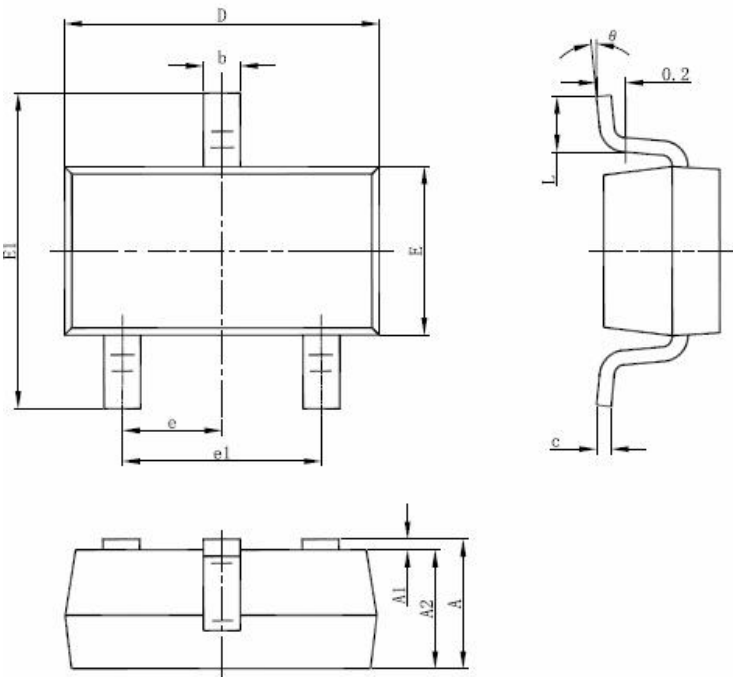


Figure 3: Normalized Maximum Transient Thermal Impedance

Package Mechanical Data-SOT-23



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
E	1.500	1.700	0.059	0.067
E1	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°