

General Description

The MY3402 is the high cell density trenched N-CH MOSFET, which provides excellent $R_{DS(ON)}$ and efficiency for most of the small power switching and load switch applications.

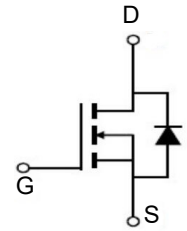
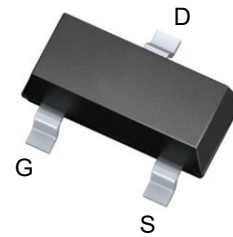


Features

V_{DSS}	30	V
I_D	5	A
$R_{DS(ON)}$ (at $V_{GS}=10V$)	< 45	$m\Omega$
$R_{DS(ON)}$ (at $V_{GS}=4.5V$)	< 65	$m\Omega$

Application

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



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
MY3402	SOT-23	MY3402	3000

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	5	A
Pulsed Drain Current (note 1)	I_{DM}	15	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient (note 2)	$R_{\theta JA}$	357	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}C$

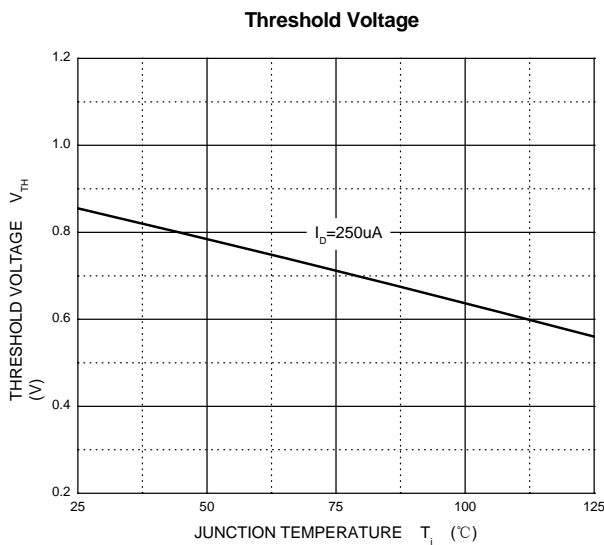
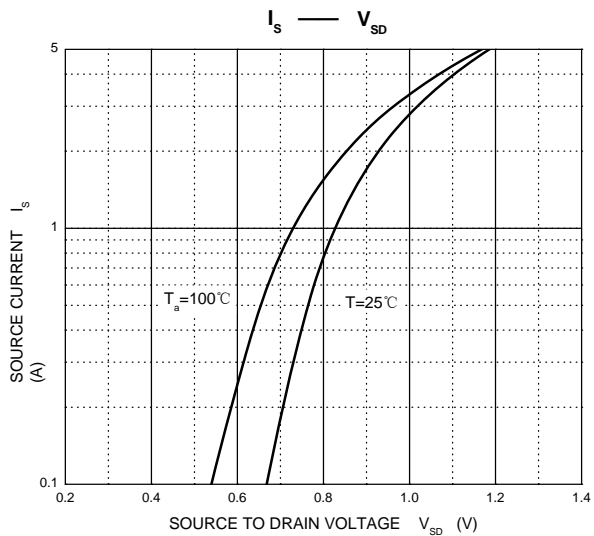
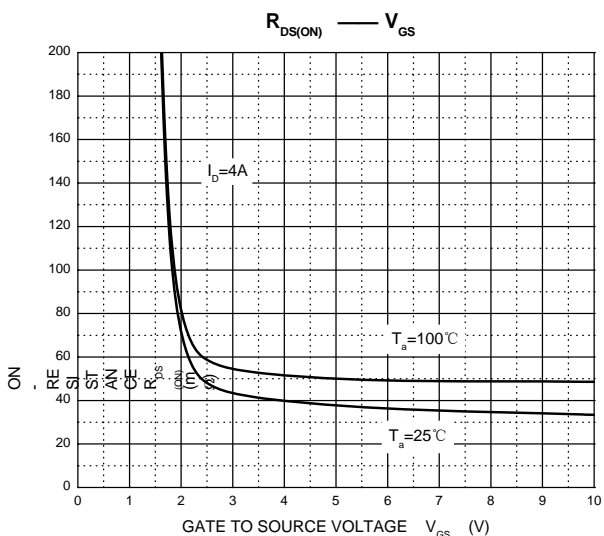
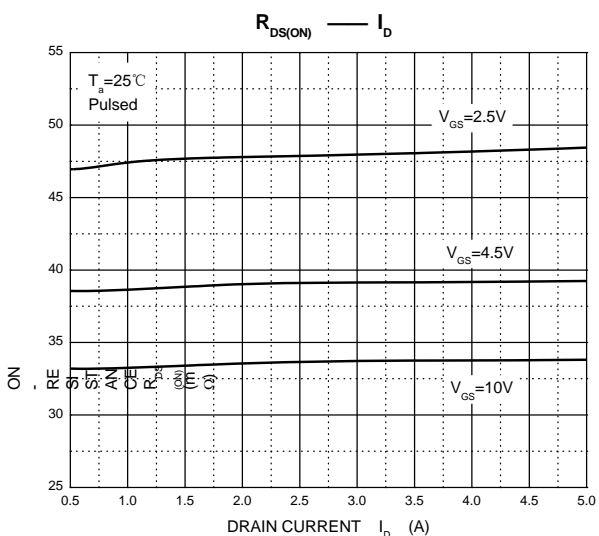
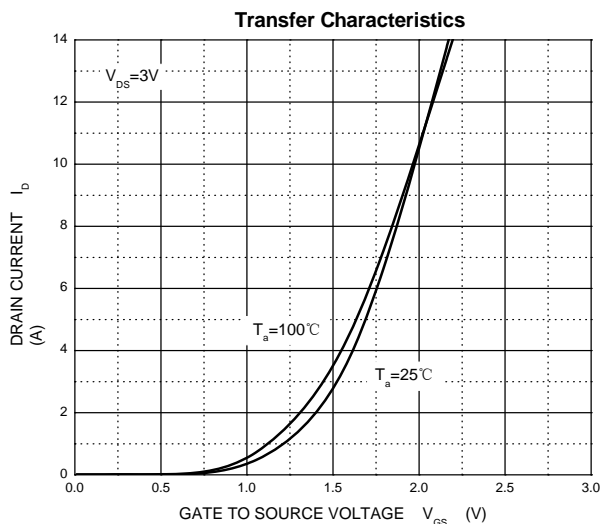
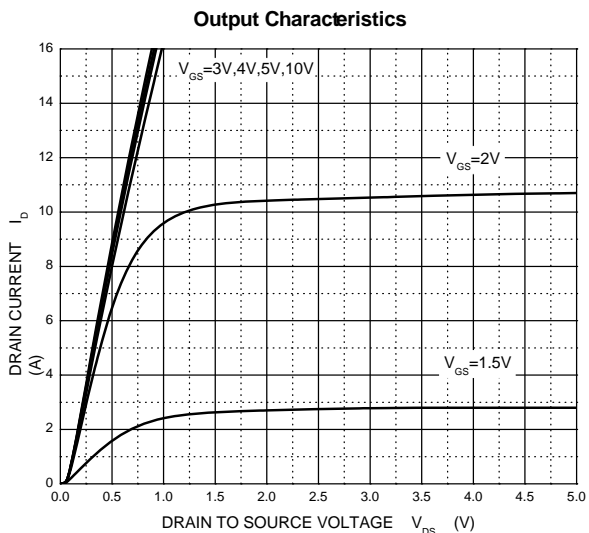
Electrical Characteristics (T_J=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC CHARACTERISTICS						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	30			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =24V, V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±12V, V _{DS} = 0V			100	nA
Gate threshold voltage (note 3)	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.6		1.4	V
Drain-source on-resistance (note 3)	R _{DS(on)}	V _{GS} =10V, I _D =4A			45	mΩ
		V _{GS} =4.5V, I _D =3A			65	mΩ
		V _{GS} =2.5V, I _D =2A			100	mΩ
Forward transconductance (note 3)	g _{FS}	V _{DS} =15V, I _D =4A		8		S
Diode forward voltage (note 3)	V _{SD}	I _S =1A, V _{GS} = 0V			1	V
DYNAMIC CHARACTERISTICS (note 4)						
Input capacitance	C _{iSS}	V _{DS} =15V, V _{GS} =0V, f =1MHz		390		pF
Output capacitance	C _{oss}			54.5		pF
Reverse transfer capacitance	C _{rSS}			41		Pf
Gate resistance	R _g	V _{DS} =0V, V _{GS} =0V, f =1MHz		3		Ω
SWITCHING CHARACTERISTICS (note 4)						
Turn-on delay time	t _{d(on)}	V _{GS} =10V, V _{DS} =15V, R _L =3.75Ω, R _{GEN} =6Ω		3.3		ns
Turn-on rise time	t _r			1		ns
Turn-off delay time	t _{d(off)}			21.7		ns
Turn-off fall time	t _f			2.1		ns
Total gate charge	Q _g	V _{DS} =15V, V _{GS} =4.5V, I _D =4A		4.34		nC
Gate-source Charge	Q _{gs}			0.6		nC
Gate-drain Charge	Q _{gd}			1.38		nC
Body diode reverse recovery time	t _r	I _F =4A, dl/dt=100A/μs		1.2		ns
Body diode reverse recovery charge	Q _{rr}			6.3		nC

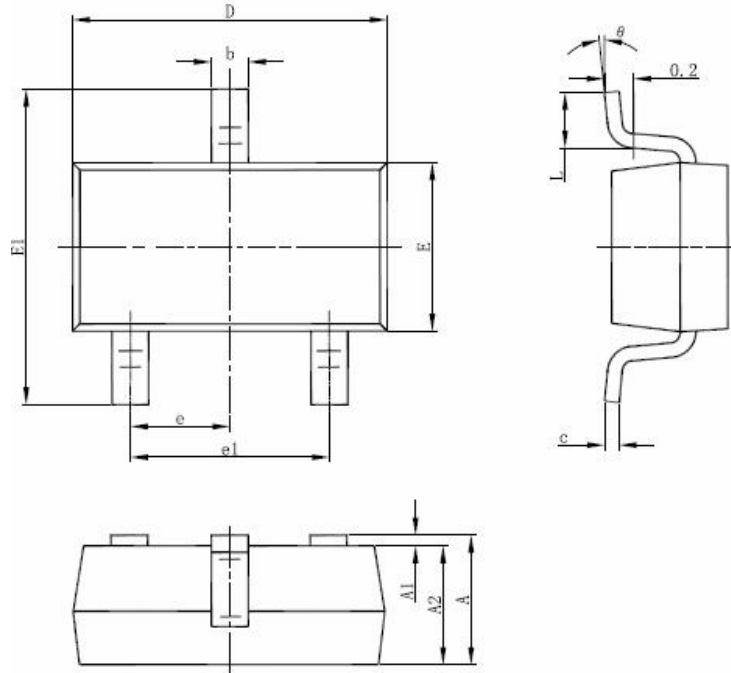
Notes :

1. Repetitive rating : Pulse width limited by junction temperature.
2. Surface mounted on FR4 board , t_s≤10s.
3. Pulse Test : Pulse Width≤80μs, Duty Cycle≤0.5%.
4. Guaranteed by design, not subject to producing.

Typical Electrical and Thermal Characteristics



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°