

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
100V	210m Ω @10V	2A
	230m Ω @4.5V	

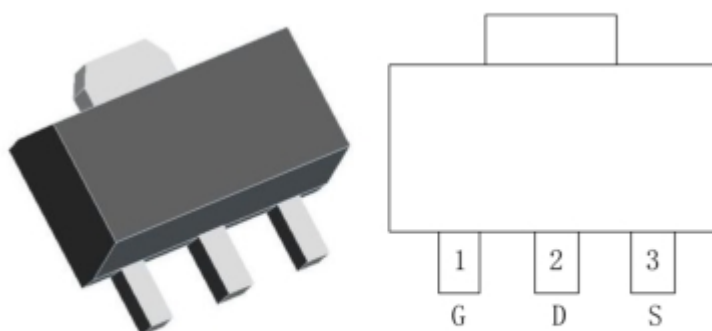
Feature

- Trench Technology
- Supper high density cell design
- Excellent ON resistance for higher DC current

Application

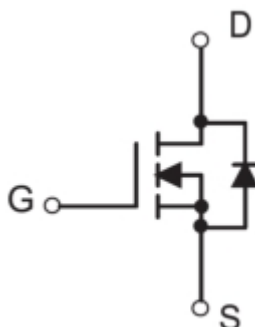
- Driver for Relay, Solenoid, Motor, LED etc.
- DC-DC converter circuit
- Power Switch
- Load Switch
- Charging

Package



SOT-89-3L

Circuit diagram



Marking



0102 =Device Code
****** =Week Code

Absolute maximum ratings

(T_a=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	100	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current	I _D	2	A
Power Dissipation	P _D	0.35	W
Thermal Resistance from Junction to Ambient	R _{θJA}	357	°C/ W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C

Electrical characteristics

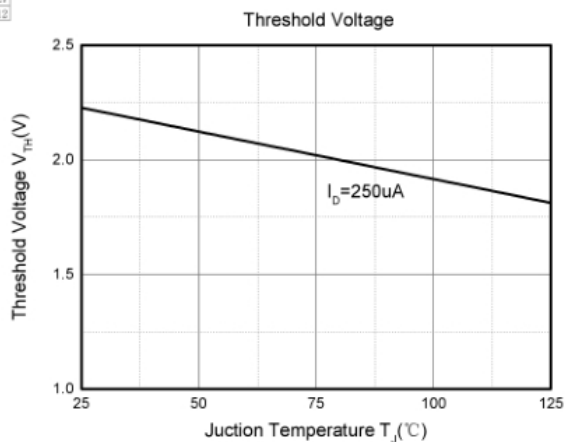
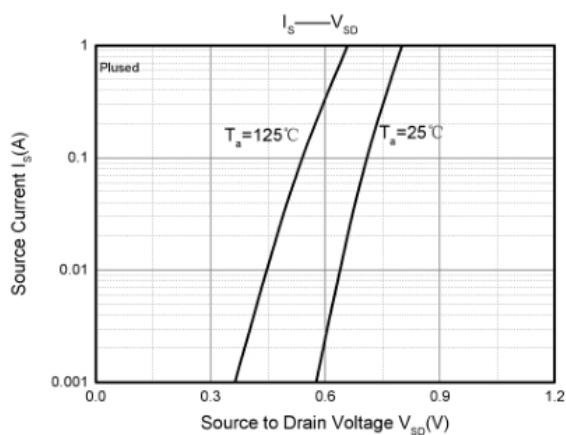
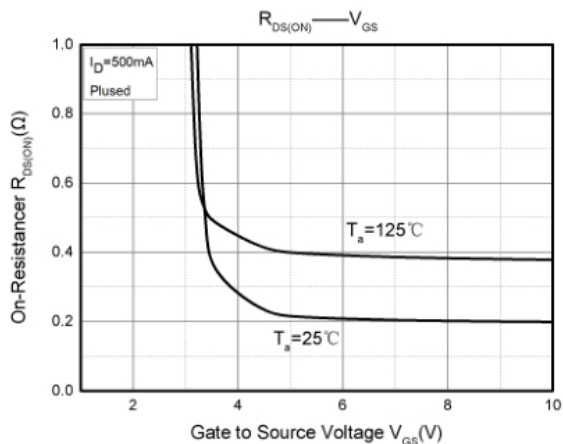
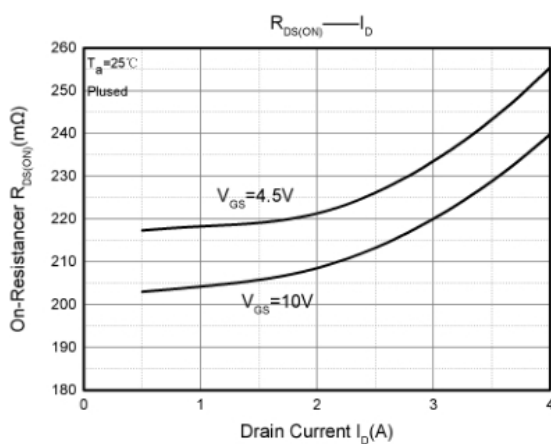
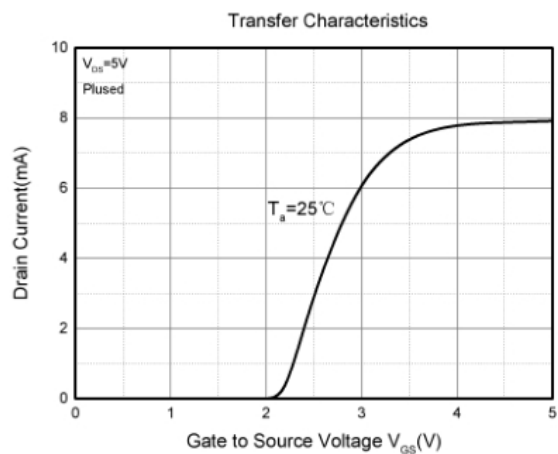
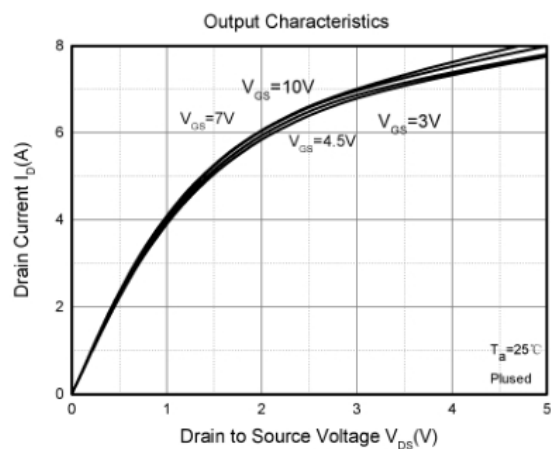
($T_A=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 100V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	μA
Gate threshold voltage ³	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	2.1	3	V
Drain-source on-resistance ³	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 1.4A$		210	240	m Ω
		$V_{GS} = 4.5V, I_D = 1.3A$		230	280	
Dynamic characteristics						
Input Capacitance	C_{iss}	$V_{DS} = 50V, V_{GS} = 0V,$ $f = 1MHz$		190		pF
Output Capacitance	C_{oss}			22		
Reverse Transfer Capacitance	C_{rss}			13		
Switching Characteristics						
Total Gate Charge	Q_g	$V_{DS} = 50V, I_D = 1.3A,$ $V_{GS} = 10V$		5.2		nC
Gate-Source Charge	Q_{gs}			0.75		
Gate-Drain Charge	Q_{gd}			1.4		
Turn-On Delay Time	$T_{d(on)}$	$V_{DS} = 50V, I_D = 1.3A,$ $R_L = 39\Omega, V_{GS} = 10V,$ $R_G = 1\Omega$		6		nS
Turn-on rise time	T_r			10		
Turn-Off Delay Time	$T_{d(off)}$			10		
Turn-off fall time	T_f			6		
Diode Characteristics						
Diode Forward Voltage ³	V_{SD}	$V_{GS} = 0V, I_S = 1A,$ $T_J = 25^{\circ}C$		0.8	1.2	V

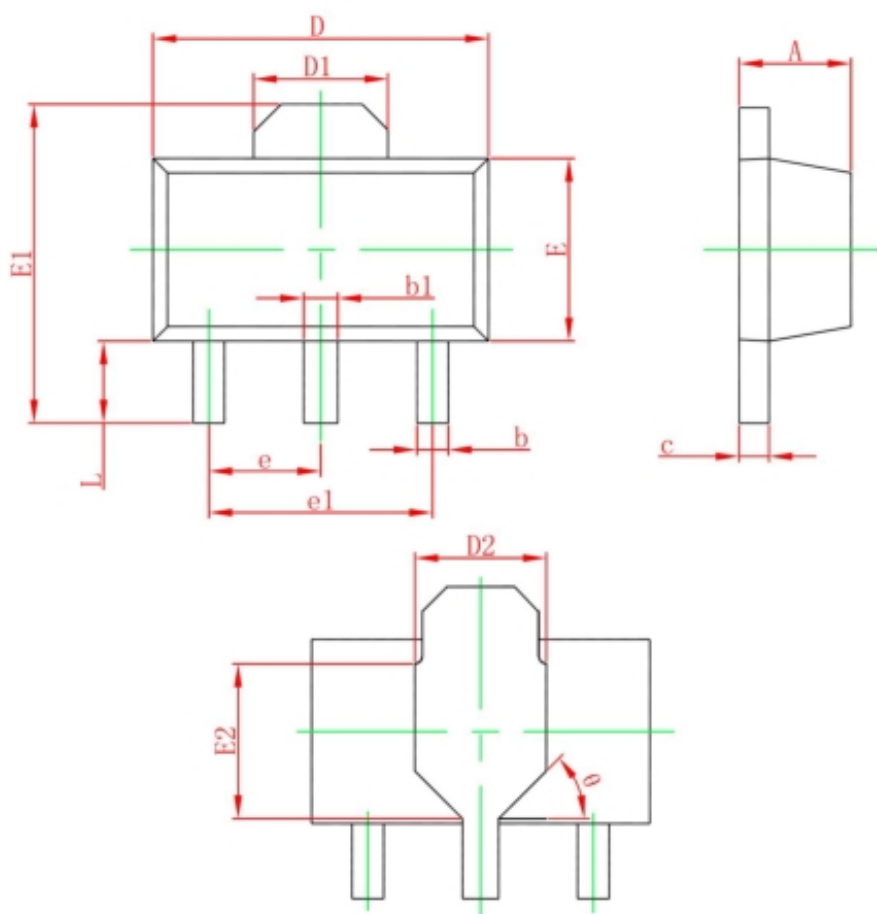
Notes:

- 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

Typical Characteristics



SOT-89-3L Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	1.400	1.600
b	0.320	0.520
b1	0.400	0.580
c	0.350	0.440
D	4.400	4.600
D1	1.550 REF.	
D2	1.750 REF.	
E	2.300	2.600
E1	3.940	4.250
E2	1.900 REF.	
e	1.500 TYP.	
e1	3.000 TYP.	
L	0.900	1.200
θ	45°	