

30V N-Channel Enhancement Mode MOSFET

VDS= 30V

RDS(ON), Vgs@ 10V, Ids@ 3.5A < 47mΩ

RDS(ON), Vgs@ 4.5V, Ids@ 2.8A < 63mΩ

Features

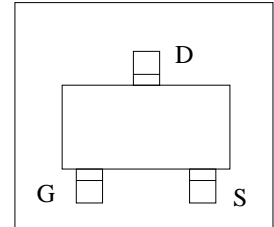
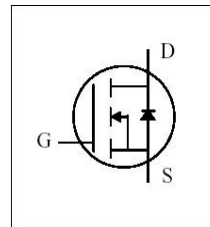
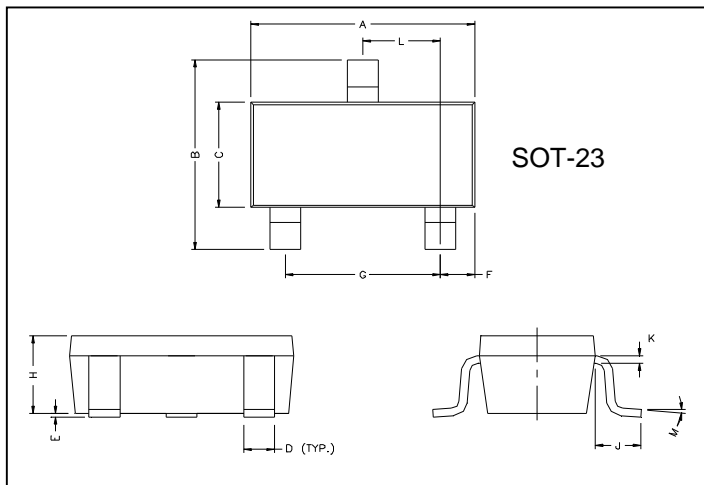
Advanced trench process technology

High Density Cell Design For Ultra Low On-Resistance

High Power and Current handling capability

Ideal for Li ion battery pack applications

Package Dimensions



REF.	Millimeter		REF.	Millimete	
	Min.	Max.		Min.	Max.
A	2.80	3.00	G	1.80	2.00
B	2.30	2.50	H	0.90	1.1
C	1.20	1.40	K	0.10	0.20
D	0.30	0.50	J	0.35	0.70
E	0	0.10	L	0.92	0.98
F	0.45	0.55	M	0°	10°

● Absolute Maximum Ratings @TA = 25°C unless otherwise noted

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V _{DSS}	30	V
Gate-Source Voltage	V _{GSS}	±20	
Drain Current (Note 1)	I _D	3.5	A
Power Dissipation (Note 1)	P _D	350	mW
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

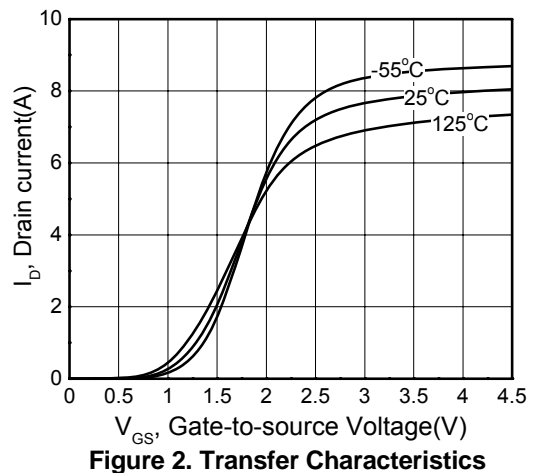
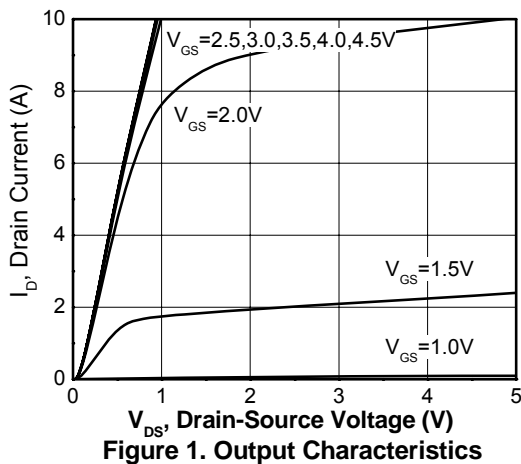
Note: 1. Mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch, for each single die.

● **Electrical Characteristics** @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS (Note 2)						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30	35	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 30V, V_{GS} = 0V$	--	--	1	μA
Gate-Body Leakage	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$	--	--	± 100	nA
ON CHARACTERISTICS (Note 2)						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.0		2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 3.5A$	--	30	47	m Ω
		$V_{GS} = 4.5V, I_D = 2.8A$	--	45	63	
Forward Transconductance	G_{FS}	$V_{DS} = 10V, I_D = 6A$	--	5	--	S
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{ISS}	$V_{DS} = 8V, V_{GS} = 0V$ $F = 1.0MHz$	--	562	--	pF
Output Capacitance	C_{OSS}		--	106	--	
Reverse Transfer Capacitance	C_{RSS}		--	75	--	
Total Gate Charge	Q_G	$V_{DS} = 10V, I_D = 6A,$ $V_{GS} = 4.5V$	--	4.86	--	nC
Gate-Source Charge	Q_{GS}		--	0.92	--	
Gate-Drain	Q_{GD}		--	1.4	--	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	$T_{D(ON)}$	$V_{DD} = 10V, I_D = 1A,$ $V_{GEN} = 4.5V, R_G = 6\Omega$	--	18	--	ns
Turn-Off Delay Time	$T_{D(OFF)}$		--	25	--	

Note: 2. Short duration test pulse used to minimize self-heating effect.

● **Typical Performance Characteristics**



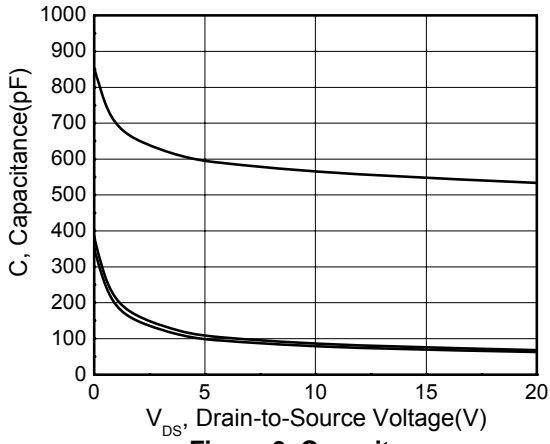


Figure 3. Capacitance

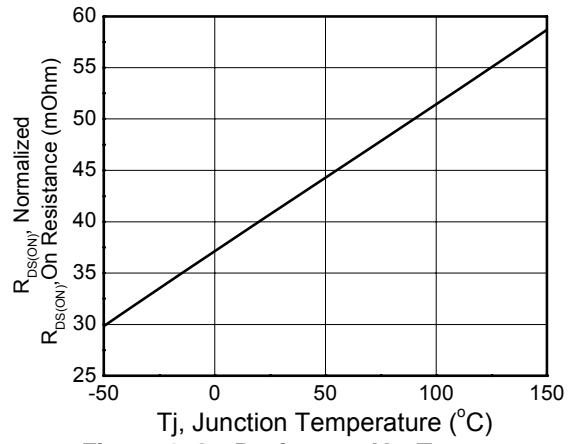


Figure 4. On Resistance Vs. Temperature

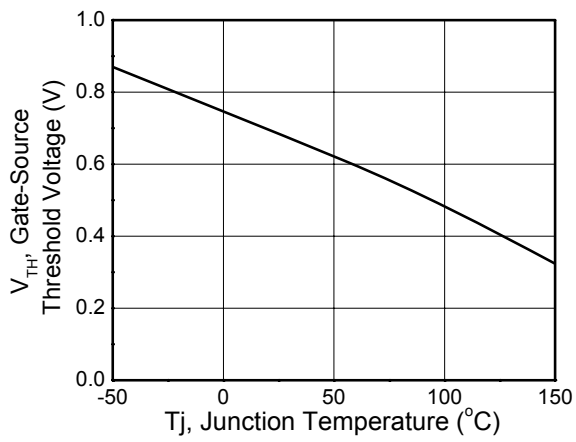


Figure 5. Gate Thershold Vs. Temperature

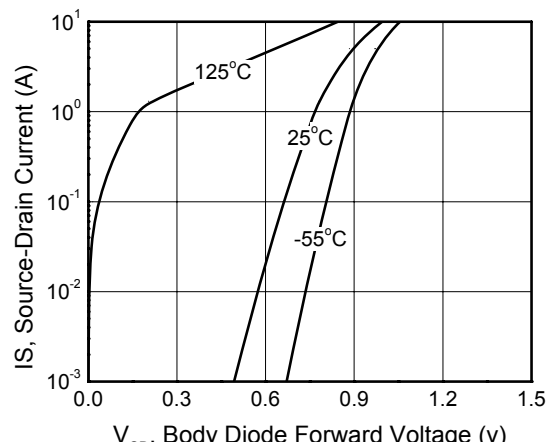


Figure 6. Body Diode Forward Voltage Vs. Source Current