

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
60V	55mΩ@10V	3.5A
	70mΩ@4.5V	

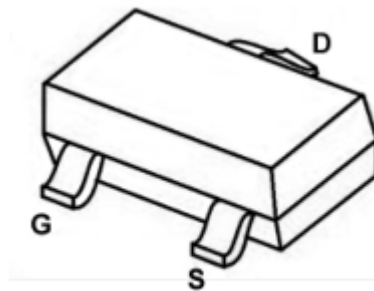
Feature

- High power and current handing capability
- Surface mount package

Applications

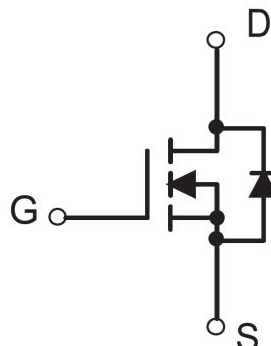
- Battery Switch
- DC/DC Converter

Package

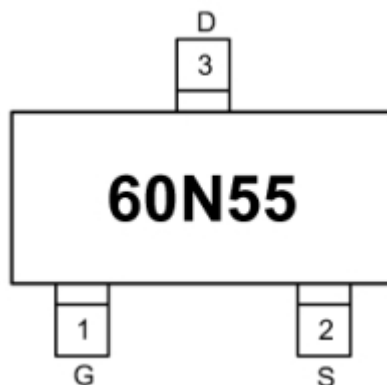


SOT-23

Circuit diagram



Marking



Absolute maximum ratings

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	3.5	A
Pulsed Drain Current	I_{DM}	14	A
Maximum Power Dissipation	P_D	1.2	W
Thermal Resistance from Junction to Ambient ²⁾	$R_{\theta JA}$	104	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 To 175	$^{\circ}\text{C}$

Electrical characteristics

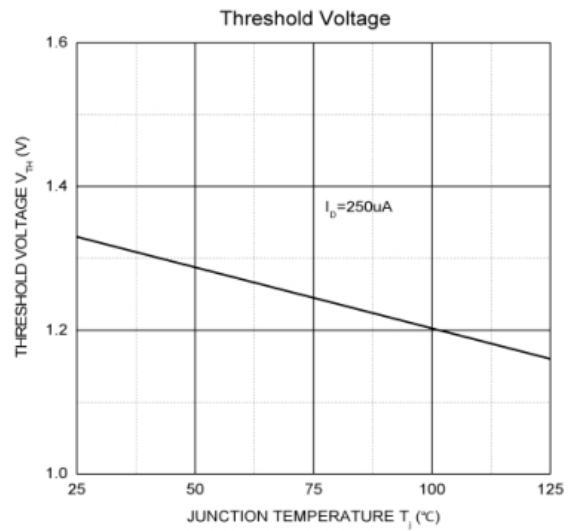
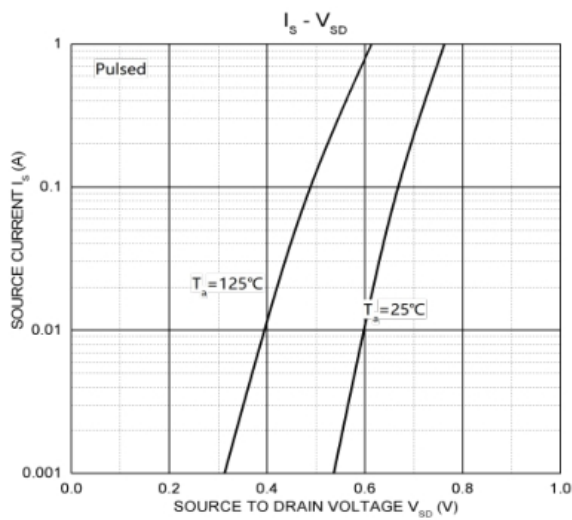
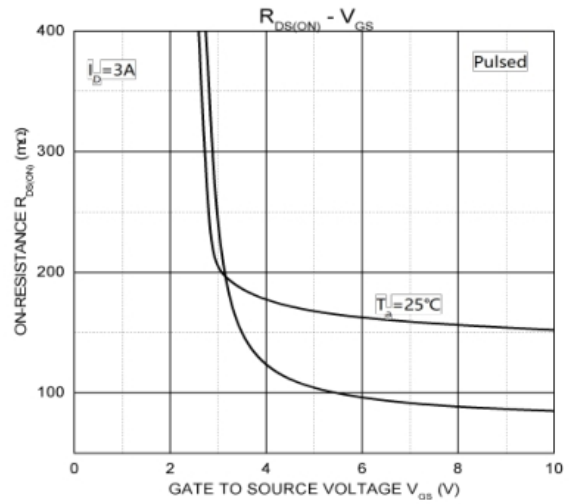
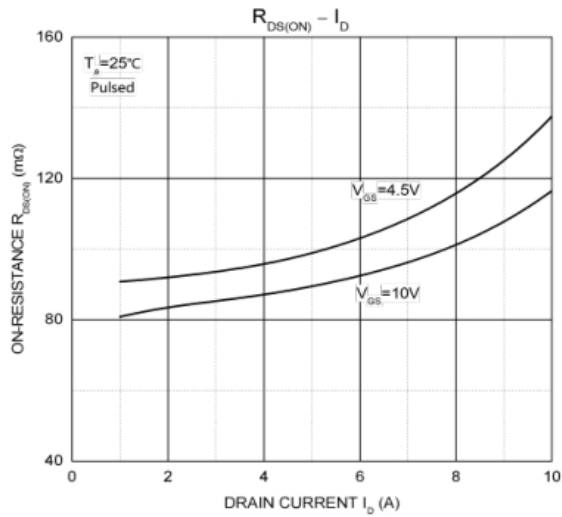
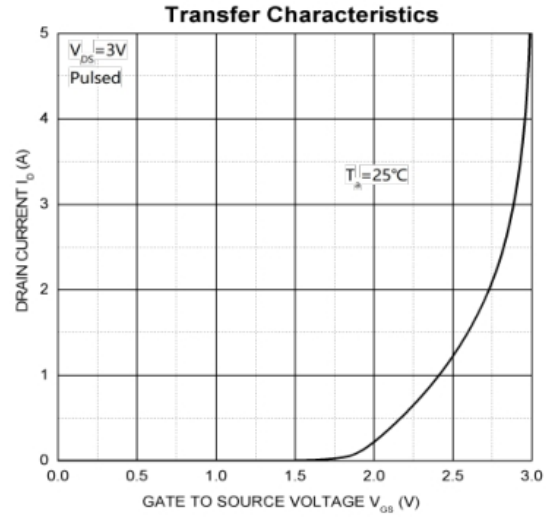
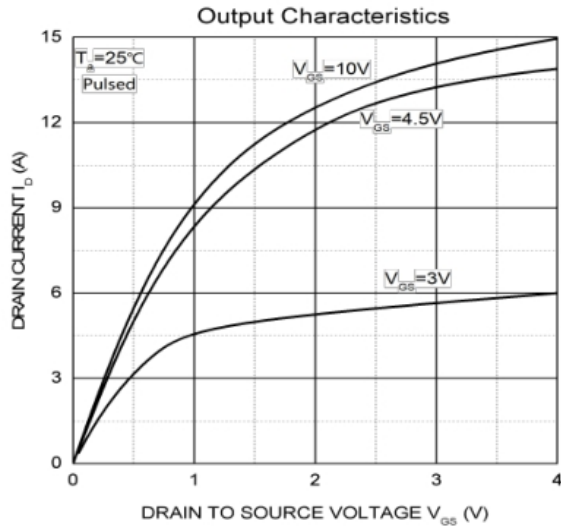
($T_A=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV (BR)DSS	V _{GS} = 0V, I _D =250μA	60			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V, V _{GS} = 0V			1	uA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} = 0V			±100	uA
Gate Threshold Voltage ³⁾	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1		3	V
Drain-Source On-State Resistance ³⁾	R _{DS(on)}	V _{GS} =10V, I _D =3A		55	80	mΩ
		V _{GS} =4.5V, I _D =2A		70	100	
Dynamic Characteristics ⁽⁴⁾						
Input capacitance	C _{iss}	V _{DS} =30V, V _{GS} =0V, f=1MHz		330		pF
Output capacitance	C _{OSS}			90		
Reverse transfer capacitance	C _{rss}			17		
Total Gate Charge	Q _g	V _{DS} =30V, V _{GS} =4.5V, I _D =3A		5.1		pF
Gate-Source Charge	Q _{gs}			1.3		
Gate-Drain Charge	Q _{gd}			1.7		
Switching Characteristics ⁽⁴⁾						
Turn-on Delay Time	T _{d(on)}	V _{GS} =10V, V _{DD} =30V, I _D =1.5A, R _{Gen} =3Ω		13		nS
Turn-on Rise Time	T _r			51		
Turn-Off Delay Time	T _{d(off)}			19		
Turn-Off Fall Time	t _f			12		
Drain-Source Diode Characteristics						
Diode Forward Voltage	V _{SD}	V _{GS} =0V ,I _S =1A			1.2	V

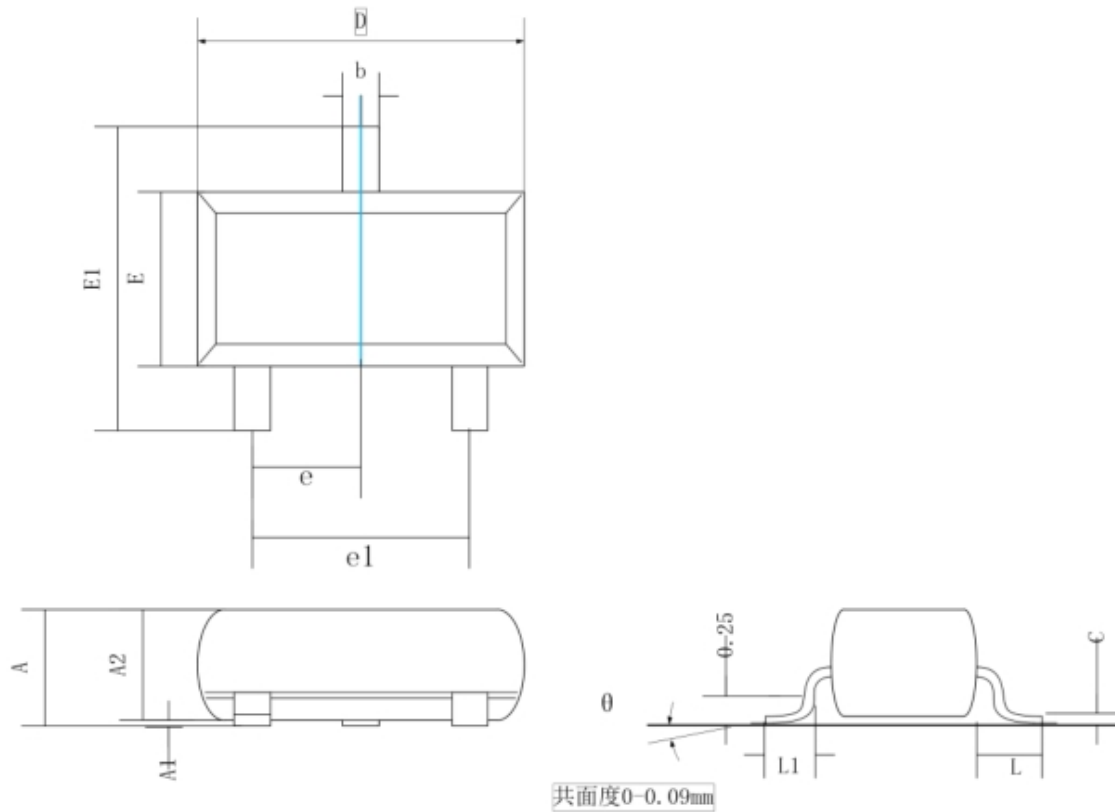
Notes:

1. E AS condition: $T_J=25^{\circ}\text{C}, V_{DD}=30V, V_G=10V, L=0.5mH, R_g=25\Omega$.
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-23 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50
θ	0°	8°