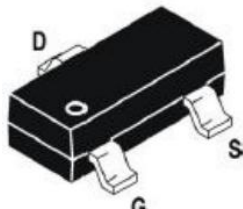
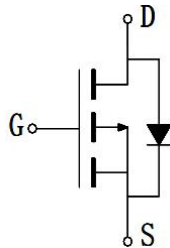




Description

<p>Features</p> <ul style="list-style-type: none"> • -20V/-5A • $R_{DS(on)} = 22m\Omega(Typ.)@V_{GS} = -4.5V$ • $R_{DS(on)} = 26m\Omega(Typ.)@V_{GS} = -2.5V$ • Low On-Resistance • Super High Dense Cell Design • Reliable and Rugged 	<p>Application</p> <ul style="list-style-type: none"> • Load Switch • Power Management • Battery Protection
<p>Package</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>SOT23-3</p> </div> <div style="text-align: center;">  <p>P-Channel MOSFET</p> </div> </div>	

Absolute Maximum Ratings

Symbol	Parameter	Rating	Unit
Common Ratings ($T_A = 25^\circ C$ Unless Otherwise Noted)			
$V_{(BR)DSS}$	Drain-Source Voltage	-20	V
V_{GSS}	Gate-Source Voltage	± 12	
T_J	Maximum Junction Temperature	150	$^\circ C$
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ C$
I_S	Diode Continuous Forward Current	$T_A = 25^\circ C$ -1	A
Mounted on Large Heat Sink			
I_{DP}	300 μs Pulse Drain Current Tested	$T_A = 25^\circ C$ -20	A
I_D	Continuous Drain Current ($V_{GS} = -4.5V$)	$T_A = 25^\circ C$ -5	A
		$T_A = 70^\circ C$ -4	
P_D	Maximum Power Dissipation	$T_A = 25^\circ C$ 1.3	W
		$T_A = 70^\circ C$ 0.8	
$R_{\theta JC}$	Thermal Resistance-Junction to Case	-	$^\circ C/W$
$R_{\theta JA}$	Thermal Resistance-Junction to Ambient	100	$^\circ C/W$
Drain-Source Avalanche Ratings			
E_{AS}	Avalanche Energy, Single Pulsed	-	mJ

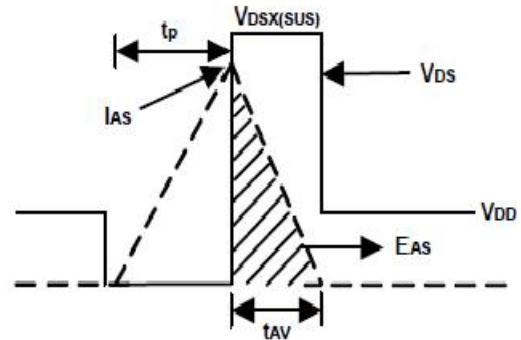
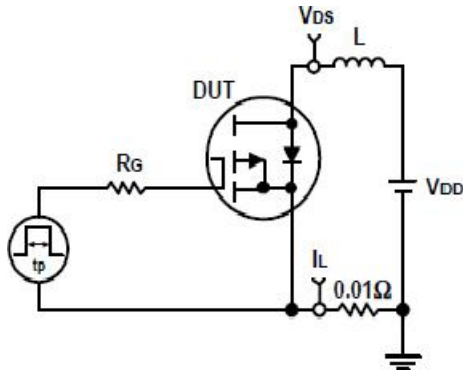


Electrical Characteristics (T_C=25°C unless otherwise specified)

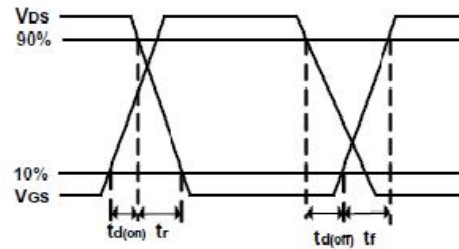
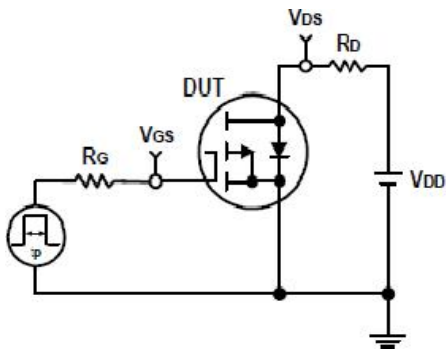
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _{DS} =-250μA	-20			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =-20V, V _{GS} =0V			-1	μA
		T _J =125°C			-30	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =-250μA	-0.4	-0.7	-1.0	V
I _{GSS}	Gate Leakage Current	V _{GS} =±12V, V _{DS} =0V			±100	nA
R _{DS(on)}	Drain-Source On-state Resistance	V _{GS} =-4.5V, I _{DS} =-5A		22	28	mΩ
		V _{GS} =-2.5V, I _{DS} =-4A		26	34	mΩ
Diode Characteristics						
V _{DS}	Diode Forward Voltage	I _{SD} =-1A, V _{GS} =0V			-1.2	V
t _{rr}	Reverse Recovery Time	I _{SD} =-5A, dI _{SD} /dt=100A/μs		18		ns
Q _{rr}	Reverse Recovery Charge			25		nC
Dynamic Characteristics						
R _G	Gate Resistance	V _{GS} =0V, V _{DS} =0V, F=1MHz		0.89		Ω
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =-10V, Frequency=1.0MHz		662		pF
C _{oss}	Output Capacitance			139		
C _{rss}	Reverse Transfer Capacitance			68		
t _{d(on)}	Turn-on Delay Time	V _{DD} =-10V, R _L =3.8Ω, I _{DS} =-5A, V _{GND} =-4.5V, R _G =6Ω		11		ns
t _r	Turn-on Rise Time			18		
t _{d(off)}	Turn-off Delay Time			46		
t _f	Turn-off Fall Time			22		
Gate Charge Characteristics						
Q _g	Total Gate Charge	V _{DS} =-16V, V _{GS} =-10V, I _{DS} =-5A		12		nC
Q _{gs}	Gate-Source Charge			2		
Q _{gd}	Gate-Drain Charge			4		



Avalanche Test Circuit and Waveforms



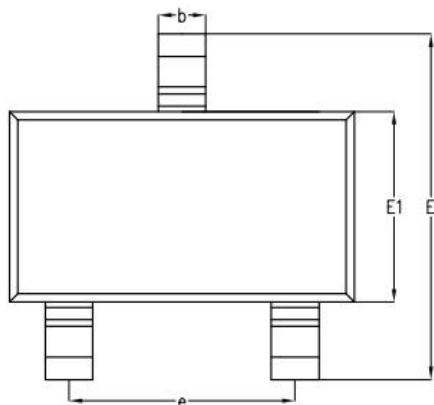
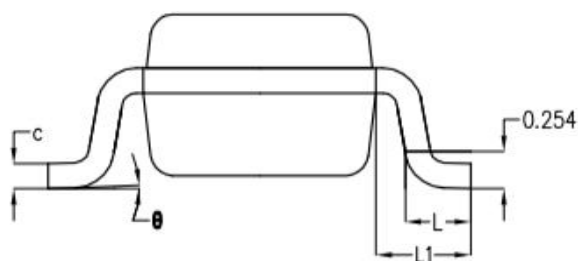
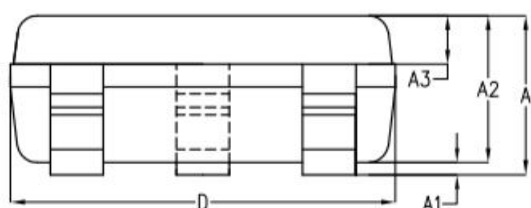
Switching Time Test Circuit and Waveforms





Package Information

➤ SOT23-3(大)



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	-	1.19	1.24
A1	-	0.05	0.09
A2	1.05	1.10	1.15
A3	0.31	0.36	0.41
b	0.35	0.40	0.45
c	0.12	0.17	0.22
D	2.85	2.90	2.95
E	2.80	2.90	3.00
E1	1.55	1.60	1.65
e	1.90BSC		
L	0.37	0.45	0.53
L1	0.65BSC		
θ	0°	2°	8°