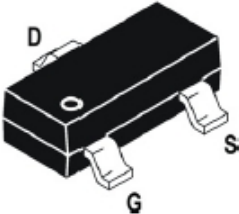
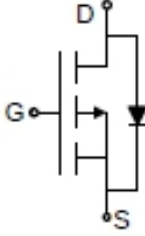




Description

<p>Features</p> <ul style="list-style-type: none"> • Extremely Low RDS(on): • Typ.RDS(on) =39mΩ @VGS=-10 V, Id=-4 A • Good stability and uniformity • 100% avalanche tested • Excellent package for good heat dissipation 	<p>General Description</p> <p>The 3407/H uses advanced trench technology to provide excellent RDS(ON), low gate charge This device is suitable for use in UPS, power switching and general purpose applications.</p>
<p>Package</p>  <p style="text-align: center;">SOT-23</p>	 <p style="text-align: center;">Schematic Diagram</p>

Absolute Maximum Ratings (Tc=25°C unless otherwise specified)

Symbol	Parameter	Value	Units
VDS	Drain-Source Voltage	-30	V
ID	Drain Current - Continuous (TC= 25°C)、 Continuous (TC= 100°C)	-4	A
		-2.5*	A
IDM	Drain Current - Pulsed (Note 1)	-16*	A
VGS	Gate-Source Voltage	± 20	V
EAS	Single Pulsed Avalanche Energy (Note 2)	11	mJ
PD	Power Dissipation (TC = 25°C) - Derate above 25°C	1.36	W
		0.31	W/°C
Tj ,Tstg	Operating and Storage Temperature Range	-55 to +150	°C

* Drain current limited by maximum junction temperature

Thermal Characteristics

Symbol	Parameter	Value	Units
RθJC	Thermal Resistance, Junction-to-Case	73	°C/W



Electrical Characteristics ($T_C=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristic						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D = -250\mu A$	-30	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = -30V, V_{GS} = 0V,$	-	-	-1	μA
I_{GSSF}	Gate Leakage Current, Forward	$V_{DS} = 0V, V_{GS} = 12V$	-	-	100	nA
I_{GSSR}	Gate Leakage Current, Reverse	$V_{DS} = 0V, V_{GS} = -12V$	-	-	-100	nA
On Characteristics						
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-1.5	-2.0	V
$R_{DS(on)}$	Static Drain-Source on-Resistance	$V_{GS} = -10V, I_D = -4.0A$	-	39	48	m Ω
		$V_{GS} = -4.5V, I_D = -3.0A$	-	54	65	
gFS	Forward Transconductance	$V_{DS} = -5V, I_D = -4.0A$ (Note 2)	20	-	-	S
Dynamic Characteristics						
C_{iss}	Input Capacitance	$V_{DS} = -15V, V_{GS} = 0V,$ $f = 1.0MHz$	-	522	-	pF
C_{oss}	Output Capacitance		-	88	-	pF
C_{rss}	Reverse Transfer Capacitance		-	66	-	pF
Q_g	Total Gate Charge	$V_{DS} = -15V, I_D = -4.2A,$ $V_{GS} = -10V$ (Note 3, 4)	-	6.1	-	nC
Q_{gs}	Gate-Source Charge		-	0.9	-	nC
Q_{gd}	Gate-Drain("Miller") Charge		-	1.2	-	nC
Switching Characteristics						
$t_{d(on)}$	Turn-on Delay Time	$V_{DD} = -15V, I_D = 1A,$ $V_{GS} = -10V, R_G = 2.5\Omega$ (Note 3, 4)	-	12.6	-	ns
t_r	Turn-on Rise Time		-	55	-	ns
$t_{d(off)}$	Turn-off Delay Time		-	17	-	ns
t_f	Turn-off Fall Time		-	9	-	ns
Drain-Source Diode Characteristics and Maximum Ratings						
I_S	Maximum Continuous Drain to Source Diode Forward Current		-	-	-4.0	A
I_{SM}	Maximum Pulsed Drain-Source Diode Forward Current				-10	A
V_{SD}	Drain to Source Diode Forward Voltage	$V_{GS} = 0V, I_S = -4.0A$	-	-	-1.2	V

Notes:1. Repetitive Rating : Pulse width limited by maximum junction temperature

2. $I_{SD} \leq 40A, di/dt = 100A/\mu s, V_{DD} \leq BVDSS, \text{Staring } T_j = 25^\circ\text{C}$

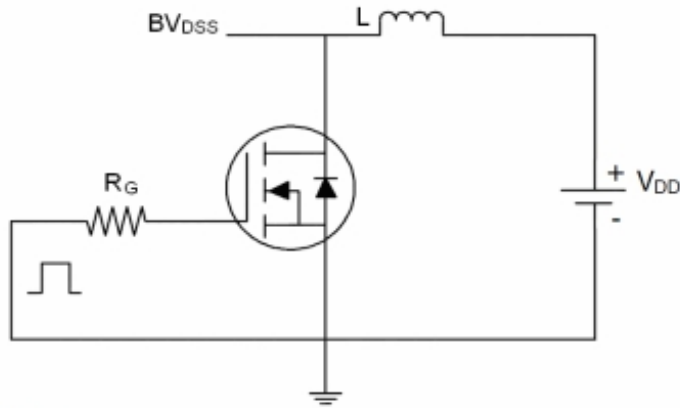
3. Pulse Test : Pulse width $\leq 300\mu s, \text{Duty cycle } \leq 2\%$

4. Essentially independent of operating temperature

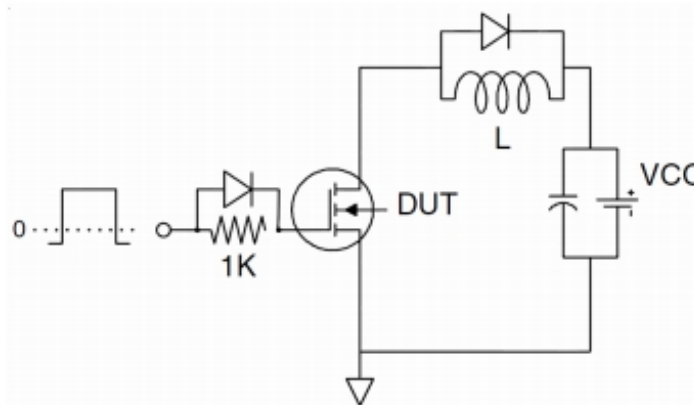


Test Circuit

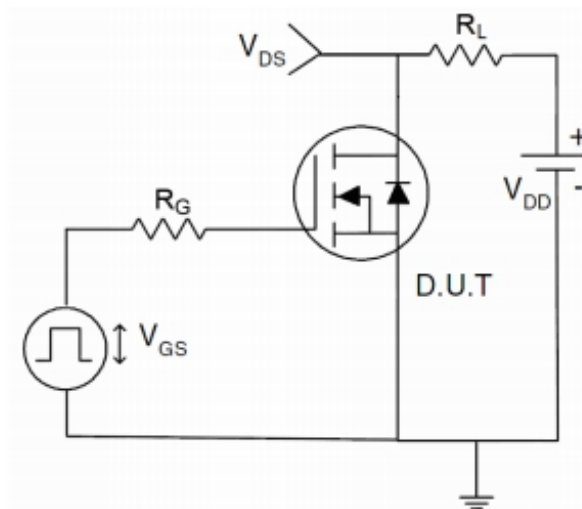
1) E_{AS} Test Circuits



2) Gate Charge Test Circuit:



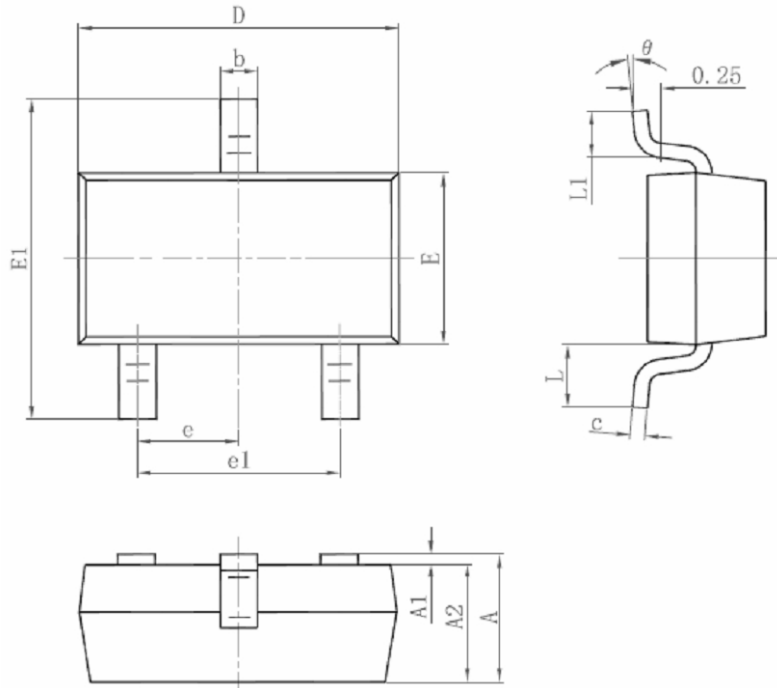
3) Switch Time Test Circuit:





Package Information.

➤ SOT23-3(小)



符号	毫米		英寸	
	最小	最大	最小	最大
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

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