

Features

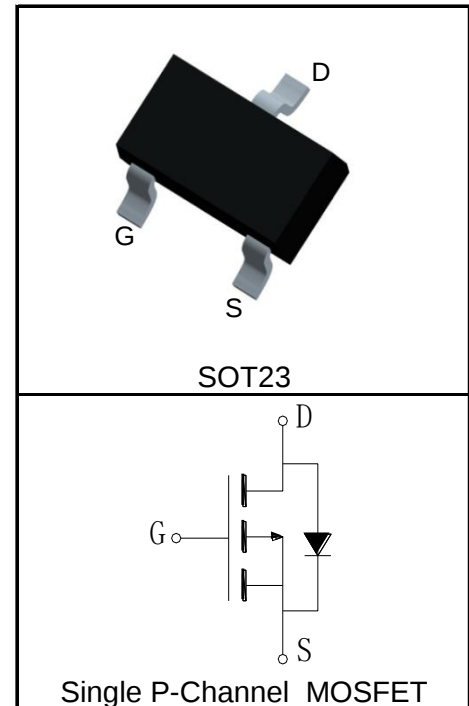
- -40V/-3A,
 $R_{DS(ON)} = 65m\Omega(Typ.)@V_{GS} = -10V$
 $R_{DS(ON)} = 95m\Omega(Typ.)@V_{GS} = -4.5V$
- Low $R_{DS(ON)}$
- Super High Dense Cell Design
- Reliable and Rugged

Applications

- Load Switch



Pin Description



Absolute Maximum Ratings

Symbol	Parameter	Rating	Unit
Common Ratings ($T_A = 25^\circ\text{C}$ Unless Otherwise Noted)			
V_{DSS}	Drain-Source Voltage	-40	V
V_{GSS}	Gate-Source Voltage	± 20	
T_J	Maximum Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ\text{C}$
I_S	Diode Continuous Forward Current	$T_A = 25^\circ\text{C}$ -1.1	A
Mounted on Large Heat Sink			
$I_{DP}^{①}$	300 μs Pulse Drain Current Tested	$T_A = 25^\circ\text{C}$ -12	A
$I_D^{②}$	Continuous Drain Current ($V_{GS} = -10V$)	$T_A = 25^\circ\text{C}$ -3	A
		$T_A = 70^\circ\text{C}$ -2.4	
P_D	Maximum Power Dissipation	$T_A = 25^\circ\text{C}$ 1	W
		$T_A = 70^\circ\text{C}$ 0.64	
$R_{\theta JL}$	Thermal Resistance-Junction to Lead	80	$^\circ\text{C/W}$
$R_{\theta JA}^{③}$	Thermal Resistance-Junction to Ambient	125	$^\circ\text{C/W}$
Drain-Source Avalanche Ratings			
$E_{AS}^{④}$	Avalanche Energy, Single Pulsed	TBD	mJ

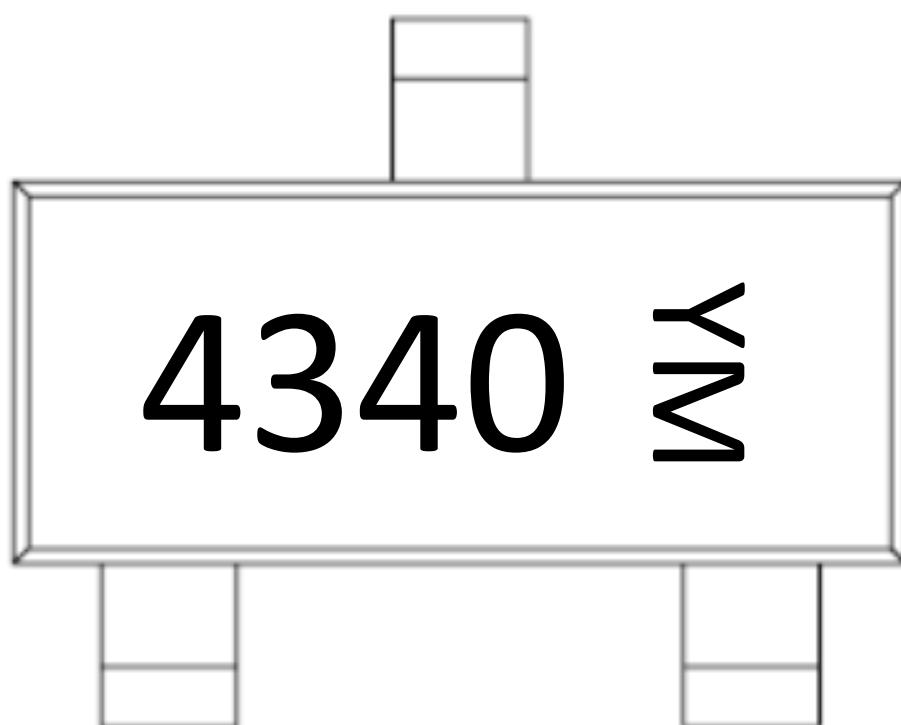
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ Unless Otherwise Noted)

Symbol	Parameter	Test Condition	KS4340AB			Unit
			Min.	Typ.	Max.	
Static Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _{DS} =-250μA	-40			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =-40V, V _{GS} =0V			-1	μA
		T _J =125°C			-30	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =-250μA	-1.3	-1.6	-2.4	V
I _{GSS}	Gate Leakage Current	V _{GS} =±20V, V _{DS} =0V			±100	nA
R _{DS(ON)} ⑤	Drain-Source On-state Resistance	V _{GS} =-10V, I _{DS} =-3A		65	90	mΩ
		V _{GS} =-4.5V, I _{DS} =-2A		95	145	mΩ
Diode Characteristics						
V _{SD} ⑤	Diode Forward Voltage	I _{SD} =-3A, V _{GS} =0V		-0.87	-1.2	V
t _{rr}	Reverse Recovery Time	I _{SD} =-3A, dI _{SD} /dt=-100A/μs		10		ns
Q _{rr}	Reverse Recovery Charge			18		nC
Dynamic Characteristics ⑥						
R _G	Gate Resistance	V _{GS} =0V, V _{DS} =0V, F=1MHz		9.5		Ω
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =-20V, Frequency=1.0MHz		500		pF
C _{oss}	Output Capacitance			65		
C _{rss}	Reverse Transfer Capacitance			30		
t _{d(ON)}	Turn-on Delay Time	V _{DD} =-20V, I _{DS} =-3A, V _{GEN} =-10V, R _G =6Ω		12		ns
t _r	Turn-on Rise Time			9		
t _{d(OFF)}	Turn-off Delay Time			21		
t _f	Turn-off Fall Time			8		
Gate Charge Characteristics ⑥						
Q _g	Total Gate Charge	V _{DS} =-20V, V _{GS} =-10V, I _{DS} =-3A		9		nC
Q _{gs}	Gate-Source Charge			2.1		
Q _{gd}	Gate-Drain Charge			2.4		

- Notes:
- ① Pulse width limited by safe operating area.
 - ② Calculated continuous current based on maximum allowable junction temperature.
 - ③ When mounted on 1 inch square copper board, $t \leq 10\text{sec}$. The value in any given application depends on the user's specific board design.
 - ④ Limited by T_{Jmax} . Starting $T_J = 25^{\circ}\text{C}$.
 - ⑤ Pulse test; Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
 - ⑥ Guaranteed by design, not subject to production testing.

Ordering and Marking Information

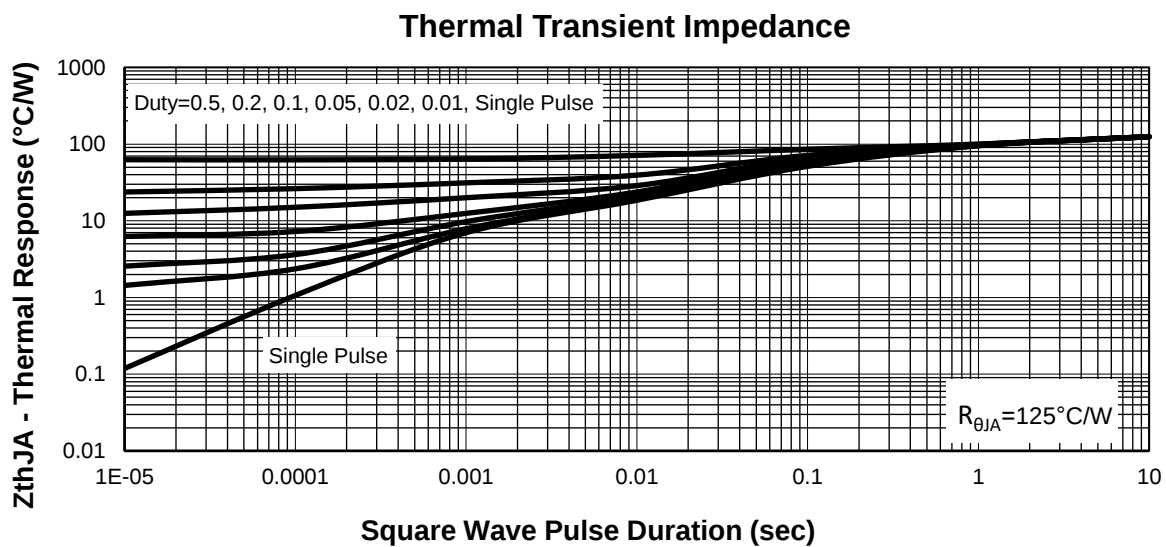
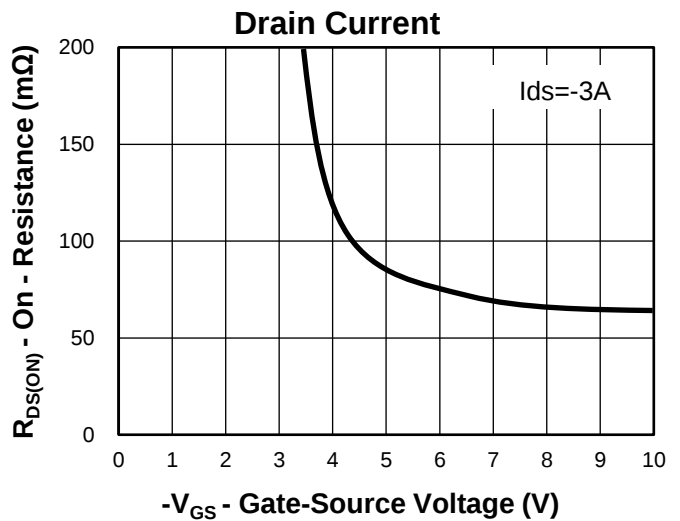
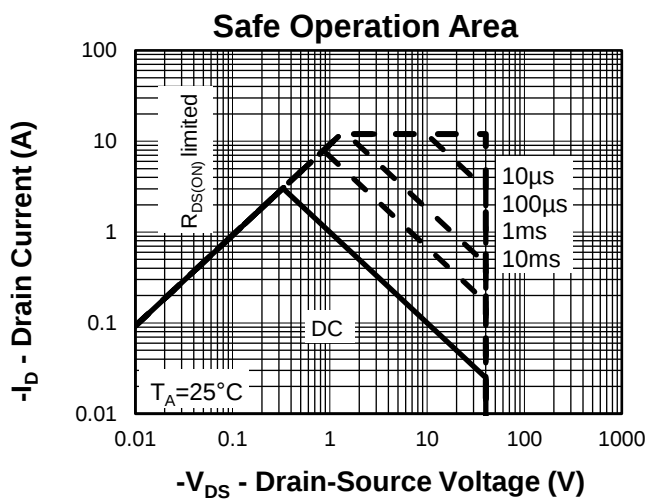
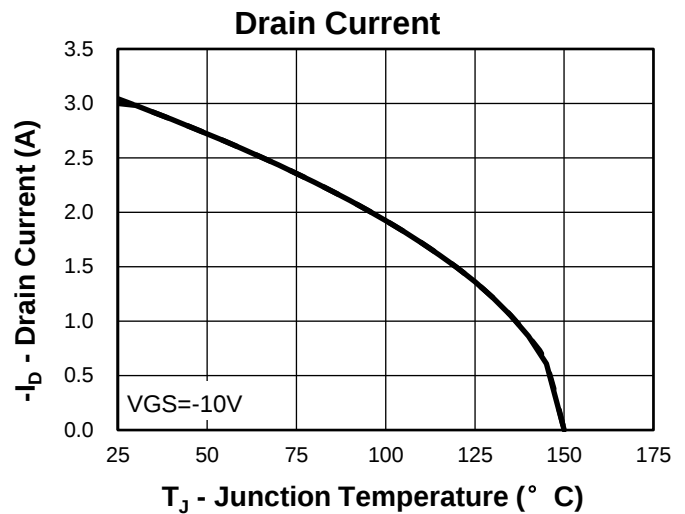
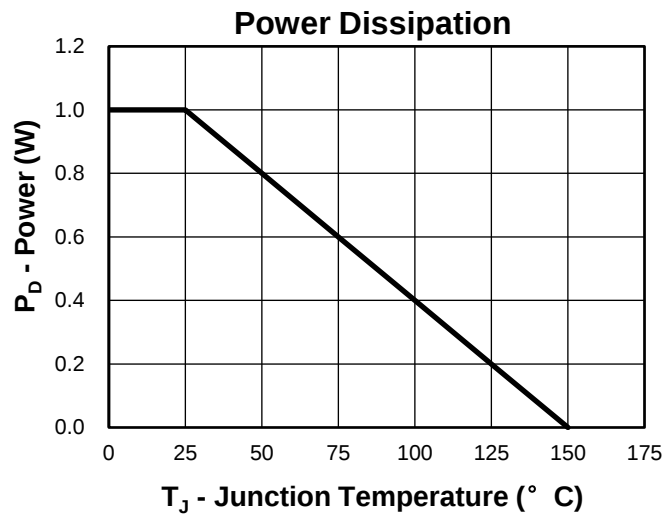
Device	Package	Packaging	Quantity	Reel Size	Tape width
KS4340AB	SOT23	Tape&Reel	3000	7"	8mm



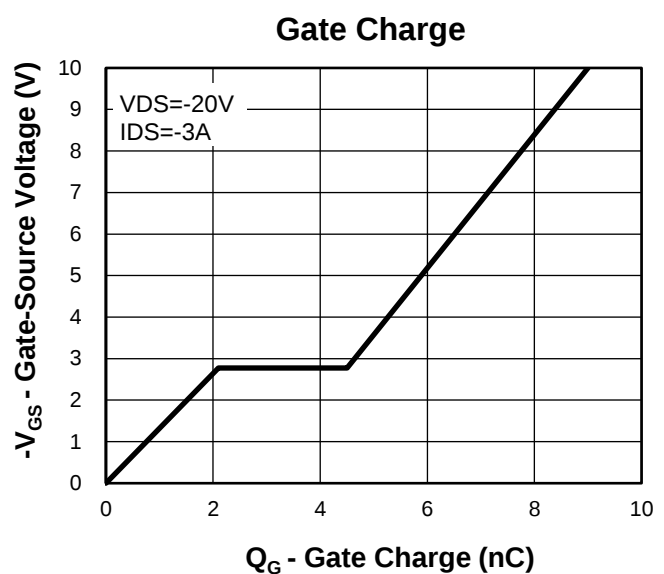
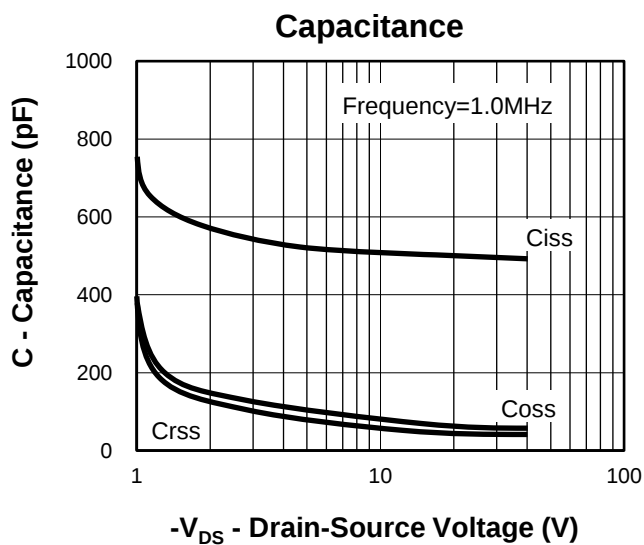
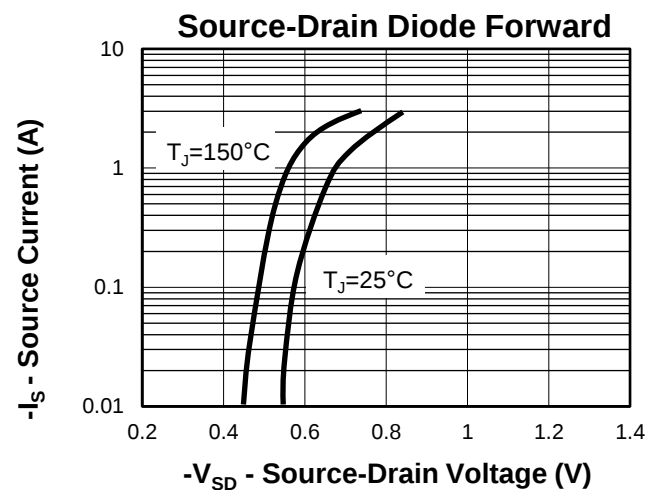
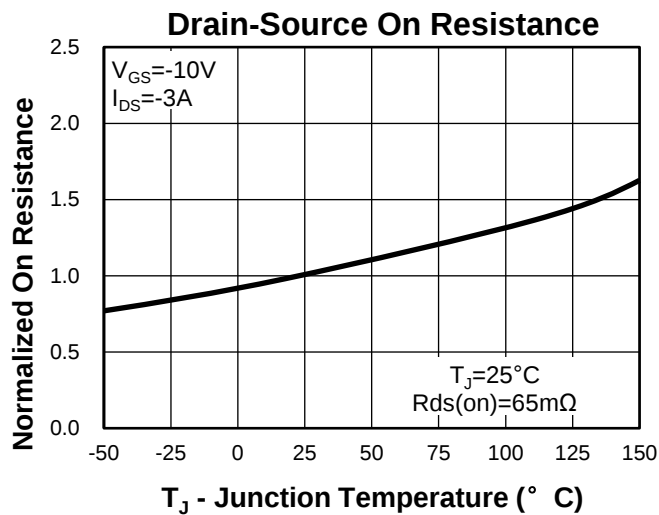
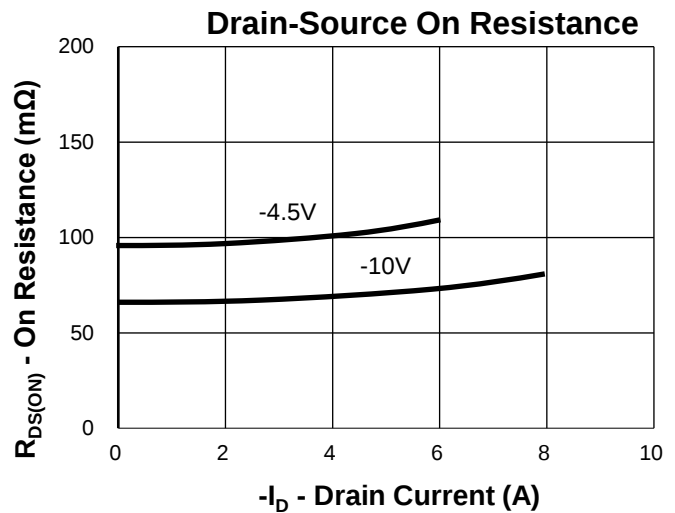
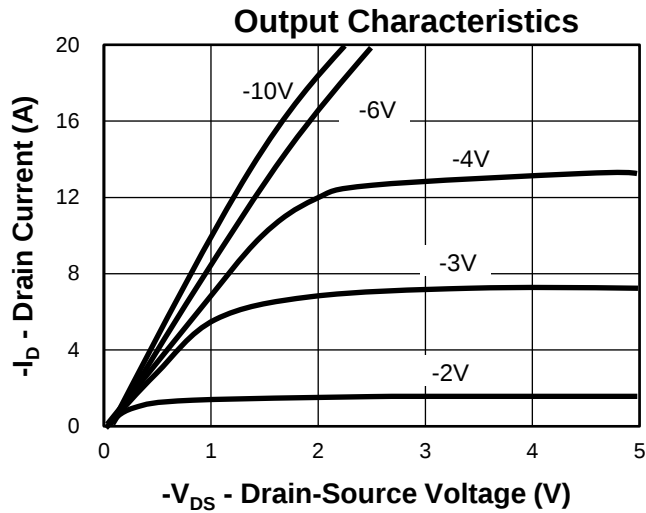
Y =Year,2017-A,2018-B,etc.

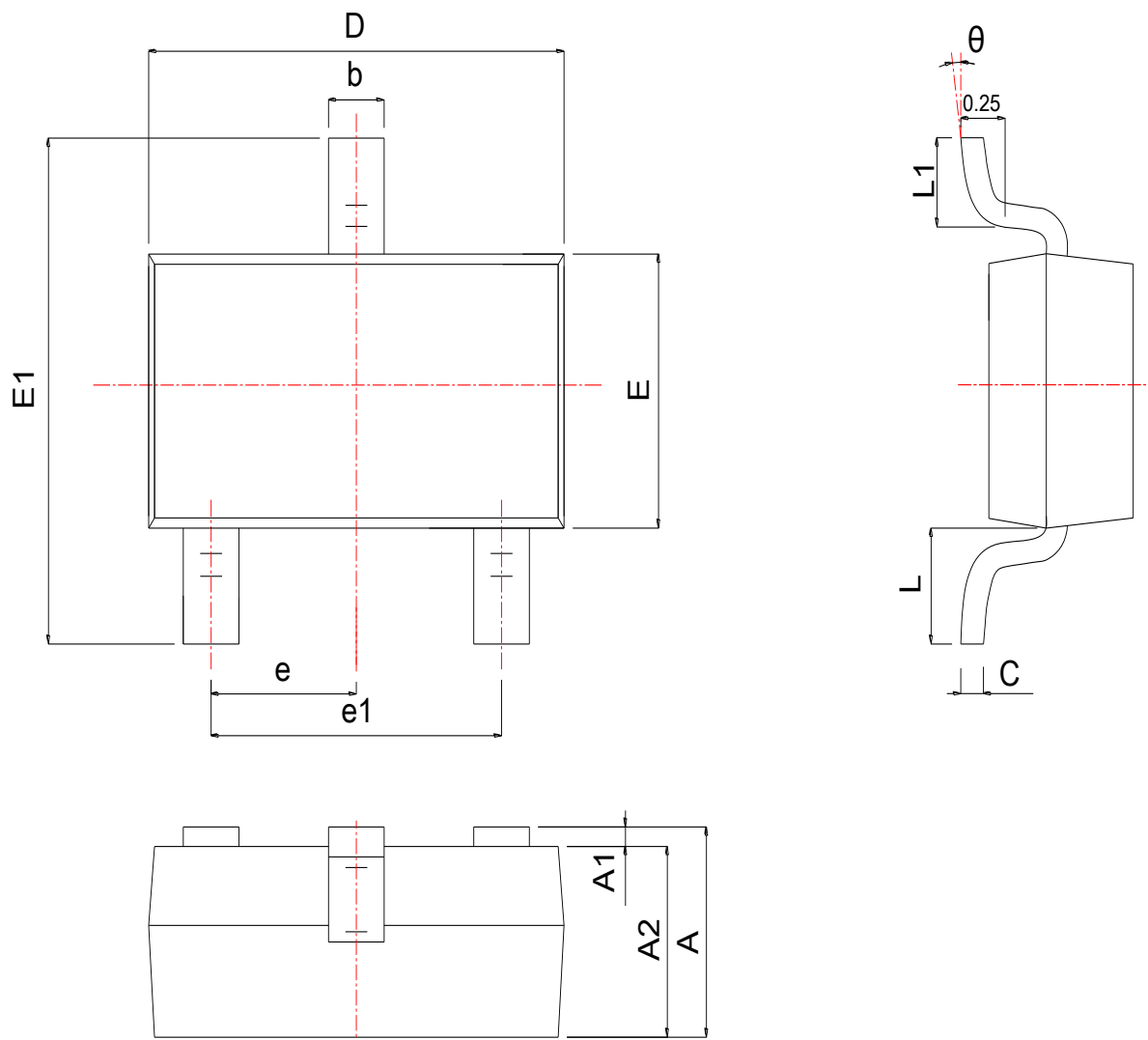
M =Month,Jan-1,Feb-2,....Sep-9,Oct-A,Nov-B,Dec-C.

Typical Characteristics



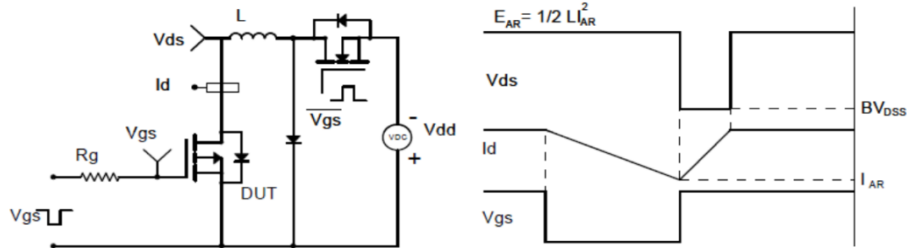
Typical Characteristics



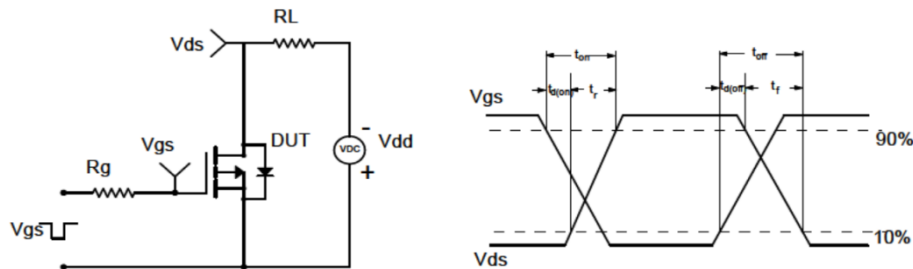
Package Information
SOT23


SYMBOL	MM			INCH		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.900	1.025	1.150	0.035	0.040	0.045
A1	0.050	0.075	0.100	0.002	0.003	0.004
A2	0.900	0.975	1.020	0.035	0.038	0.040
b	0.300	0.400	0.500	0.012	0.016	0.020
c	0.080	0.115	0.150	0.003	0.005	0.006
D	2.800	2.900	3.000	0.110	0.114	0.118
E	1.200	1.300	1.400	0.047	0.051	0.055
E1	2.250	2.400	2.550	0.089	0.094	0.100
e	0.950 TYP			0.037 TYP		
e1	1.800	1.900	2.000	0.071	0.075	0.079
L	0.540 REF			0.021 REF		
L1	0.400	0.500	0.600	0.016	0.018	0.020
θ	0°	*	8°	0°	*	8°

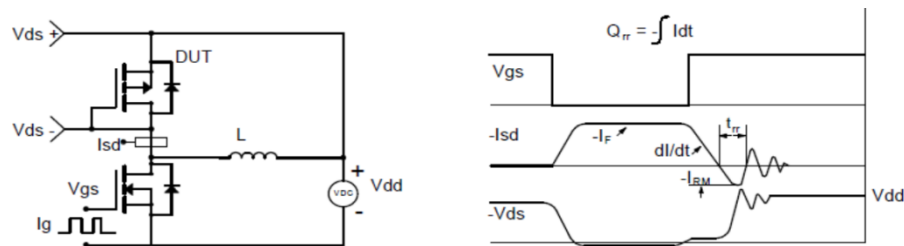
Avalanche Test Circuit and Waveforms



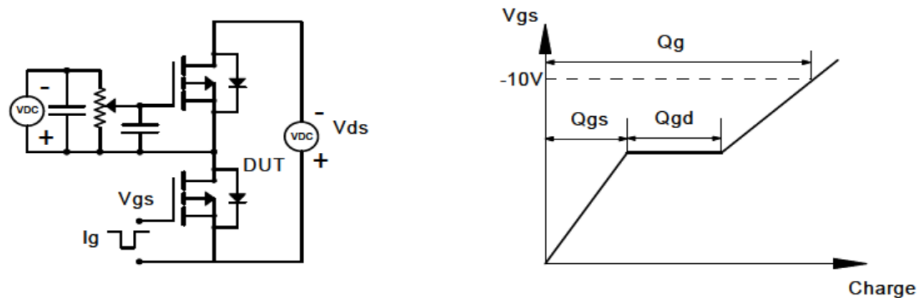
Switching Time Test Circuit and Waveforms



Diode Recovery Test Circuit and Waveforms



Gate Charge Test Circuit and Waveform



Customer Service

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