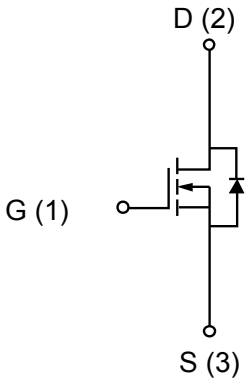
Description

The MOSFET provide the best combination of fast switching,
low on-resistance and cost-effectiveness.

MOSFET Product Summary		
V_{DS}(V)	$R_{DS(on)}$(mΩ)	I_D(A)
100	110@V_{GS}=10V	6



Absolute maximum rating@25℃

Parameter	Symbol	Maximum	Units
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current- Continuous	I_D	6	A
Drain Current-Pulsed(Note 1)	I_{DM}	24	A
Maximum Power Dissipation	P_D	3	W
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 to 150	℃
Thermal Resistance, Junction-to-Case (Note 2)	$R_{\theta JC}$	41.7	℃/W

Notes:

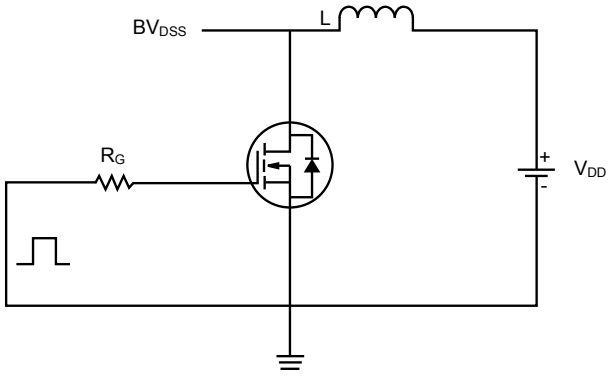
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t ≤ 10 sec.

Electrical characteristics per line@25℃(unless otherwise specified)

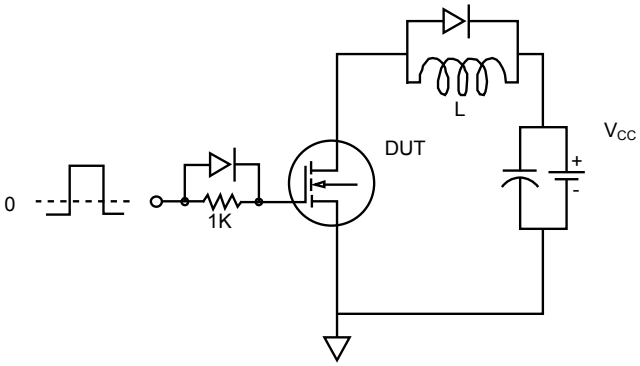
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	I_D =250μA,V_{GS}=0V	100	110	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =100V,V_{GS}=0V	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{DS} =0V,V_{GS}=±20V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1.2	1.8	2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D =5A	-	110	140	mΩ
Forward Transconductance	g_{FS}	V_{DS}=5V, I_D=2.9V		8		S
Dynamic Characteristics						
Input Capacitance	Ciss	V_{DS}=25V, V_{GS}=0V, f=1.0MHz		690		pF
Output Capacitance	Coss			120		
Reverse Transfer Capacitance	Crss			90		
Total Gate Charge	Qg	V_{GS}=10V, V_{DS}=30V, I_D =3A		15.5		nC
Gate-Source Charge	Qgs			3.2		
Gate-Drain Charge	Qgd			4.7		
Turn-On Delay Time	$t_{d(on)}$	V_{DD} =30V, V_{GS} =10V, R_G=2.5Ω, R_L=15Ω, I_D =2A	-	11		ns
Turn-Off Delay Time	$t_{d(off)}$		-	35		
Turn-On Rise Time	t_r		-	7.4		
Turn-On Fall Time	t_f		-	9.1		
Diode Forward Voltage	V_{SD}	V_{GS}=0V,I_S=6A			1.2	V
Diode Forward Current	I_S				6	A

Test Circuit

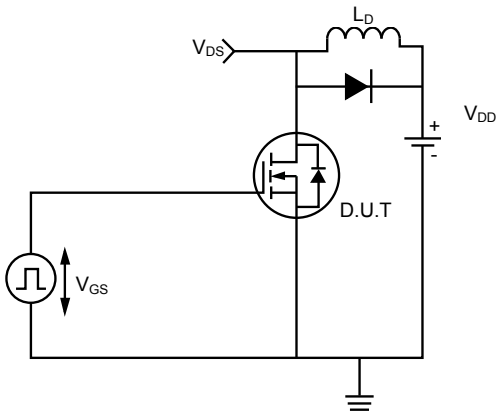
1) E_{AS} Test Circuit



2) Gate Charge test Circuit



3) Switch Time Test Circuit



Typical Characteristics

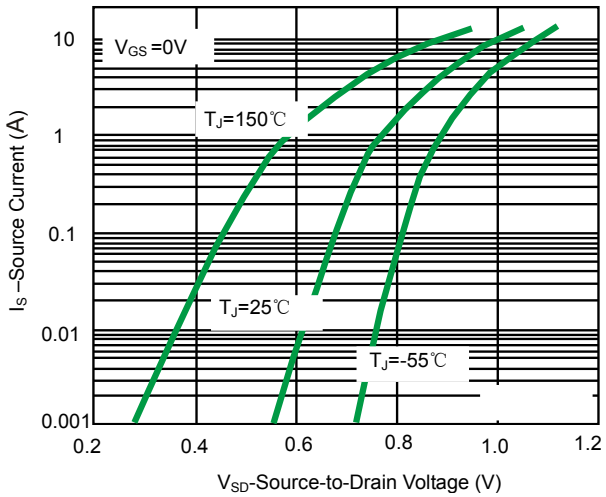


Fig 1. Source to Drain Diode Forward Voltage

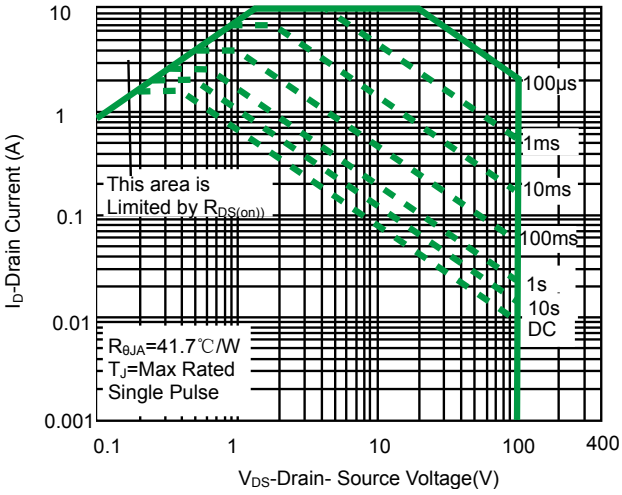


Fig 2. Maximum Forward Biased Safe Operating Area

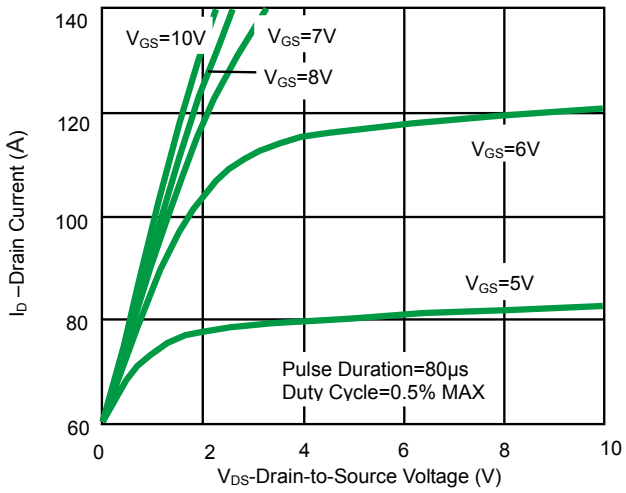


Fig 3. Output Characteristics

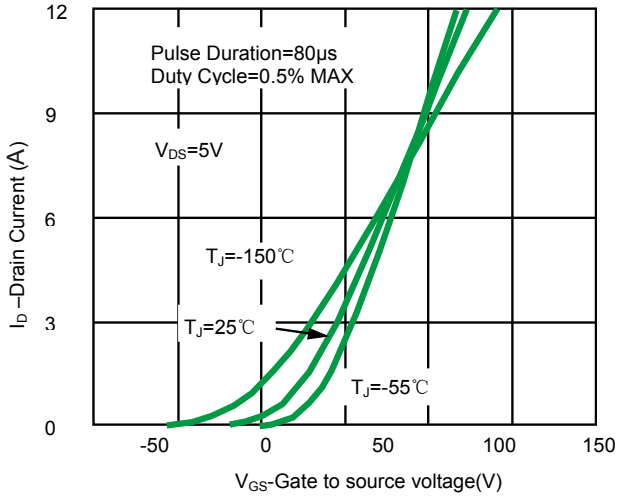


Fig 4. Transfer Characteristics

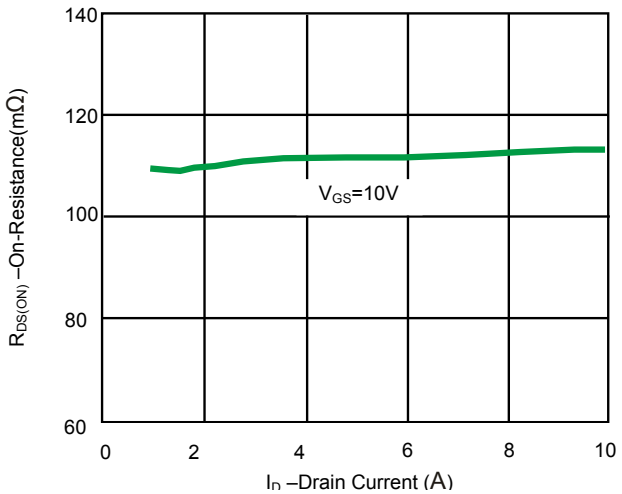


Fig 5. On-Resistance vs. Drain Current

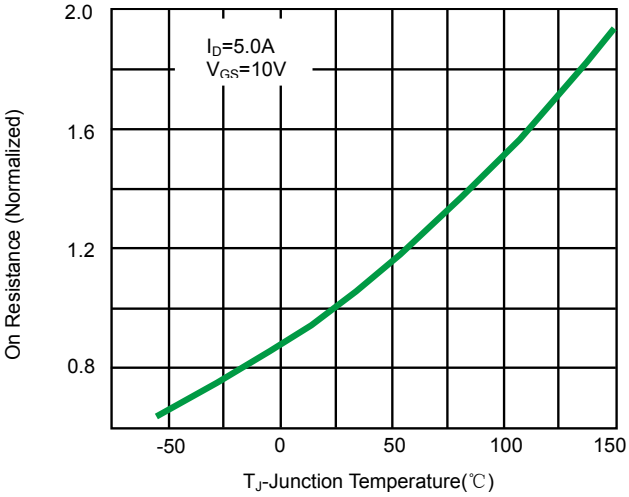


Fig 6. On Resistance vs. Junction Temperature

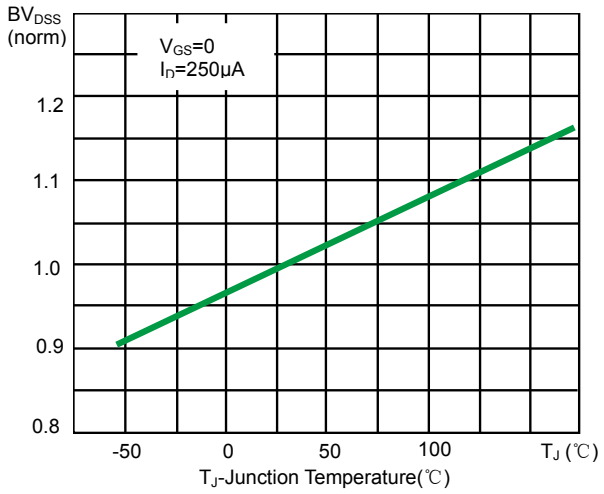


Fig 9. BV_{DSS} vs. Junction Temperature

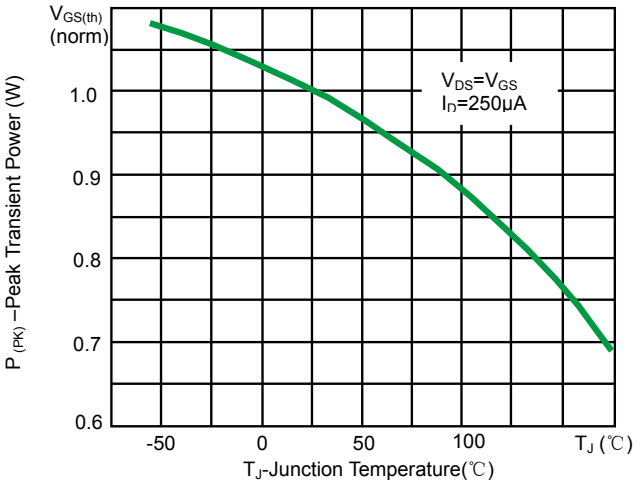


Fig 10. $V_{GS(th)}$ vs. Junction Temperature

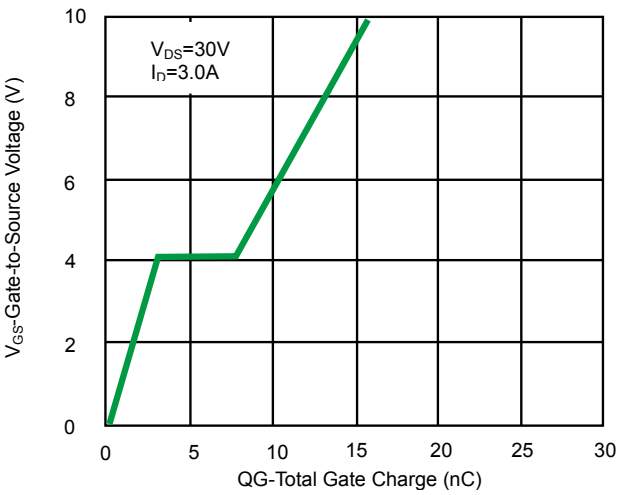


Fig 9. Gate Charge

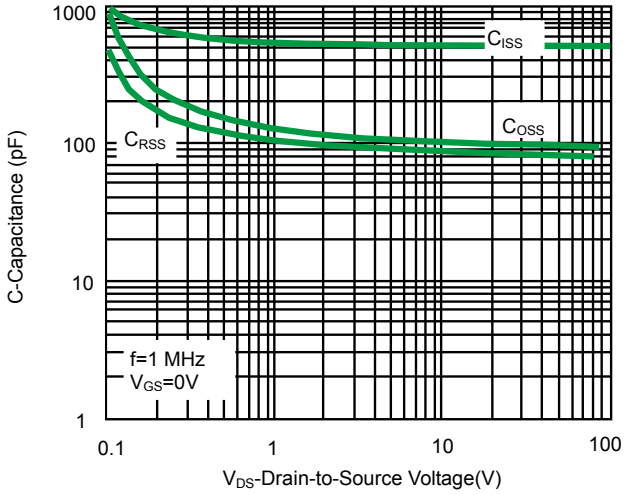


Fig 10. Source to Drain Diode Forward Voltage

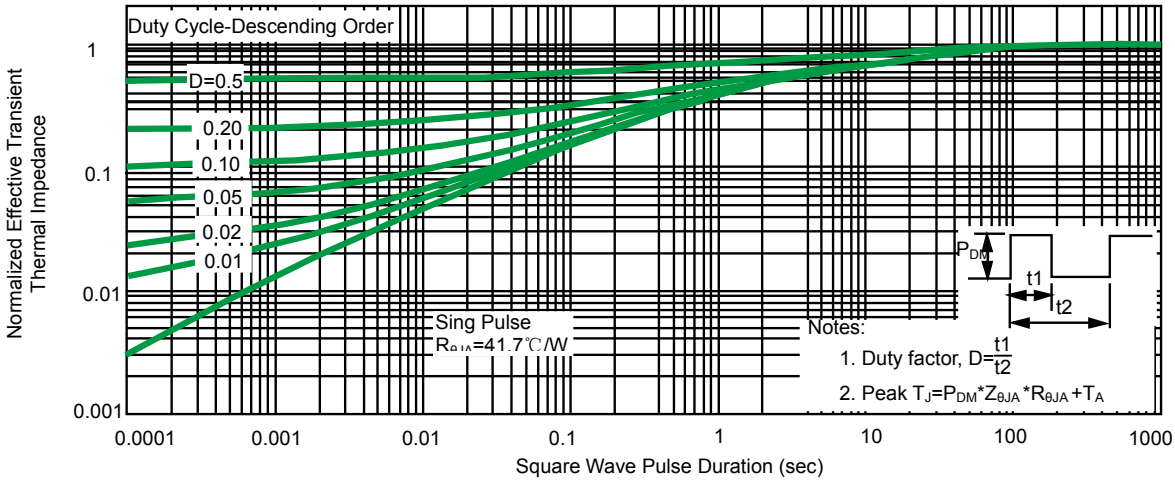
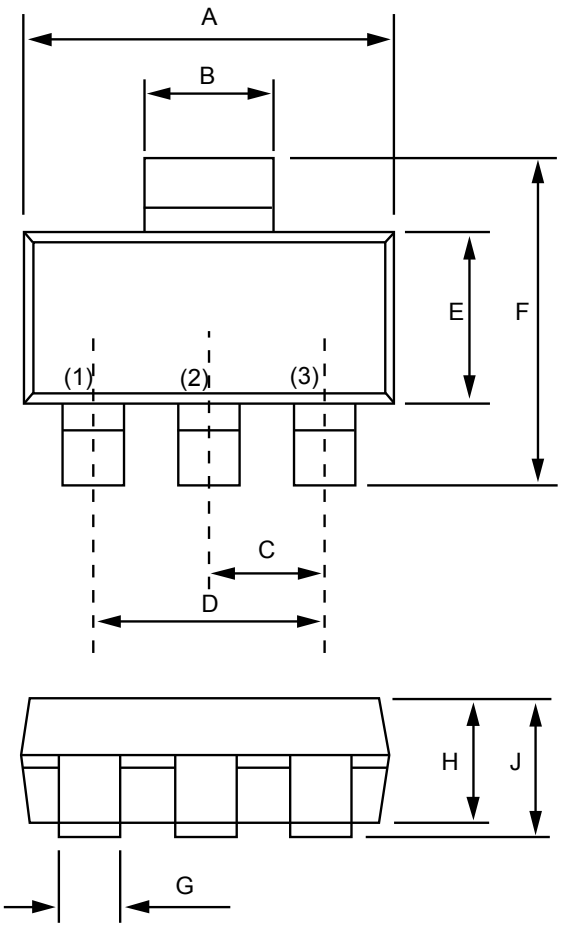


Fig 11.Normalized Maximum Transient Thermal Impedance

Product dimension(SOT-223)



Dim	Millimeters	
	MIN	MAX
A	6.30	6.70
B	2.90	3.10
C	2.30 BSC	
D	4.60 BSC	
E	3.30	3.70
F	6.70	7.30
G	0.66	0.84
H	1.55	1.65
J		1.80

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