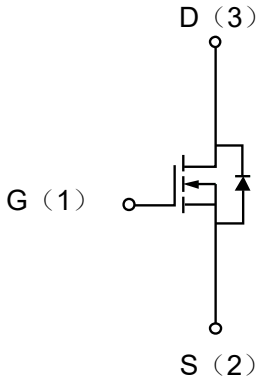
Description

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

Package：SOT-23

MOSFET Product Summary		
V_{DS}(V)	$R_{DS(on)}$(Ω)	I_D(A)
60	0.096@ VGS=4.5V	3



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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
OFF/ON CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	I_D =250μA,V_{GS}=0V	60		-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =60V,V_{GS}=0V	-	-	1	μA
		V_{DS} =60V,V_{GS}=0V T_J=55℃			10	
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	1.0	-	2.0	V
Static Drain-Source On-Resistance[2]	$R_{DS(ON)}$	V_{GS}=4.5V, I_D =2.1A	-	0.096	0.140	Ω
		V_{GS}=10V, I_D =2.6A	-	0.082	0.110	Ω
DYNAMIC PARAMETERS						
Input Capacitance	C_{ISS}	V_{GS}=0V, V_{DS} =30V, f=1MHz	-	350		pF
Output Capacitance	C_{OSS}		-	40		pF
Reverse Transfer Capacitance	C_{RSS}		-	12		pF
SWITCHING PARAMETERS						
Turn-On Delay Time	$t_{d(on)}$	V_{DS}=20V, V_{GS} =10V, R_G=1Ω,R_L=20Ω I_D =1A	-	10		ns
Turn-Off Delay Time	$t_{d(off)}$		-	29		ns
Turn-On Rise Time	t_r		-	11		ns
Turn-On Fall Time	t_f		-	3		ns
Total Gate Charge	Qg	V_{DS}=30V, V_{GS} =10V, I_D =2.6A		12		nC
Total Gate Charge	Qg	V_{DS}=30V, V_{GS} =4.5V, I_D =2.6A		6.5		nC
Gate-Source Charge	Qgs			2.2		nC
Gate-Drain Charge	Qgd			2.7		nC
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V,I_S=1.0A		0.8	1.2	V

Absolute maximum rating@25℃

Parameter		Symbol	Value	Units
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Curren(T_J=150℃)	T_A=25℃	I_D	3	A
	T_A=70℃		2.1	
Pulsed Drain Current		I_{DM}	10	A
Maximum Power Dissipation	T_A=25℃	P_D	1.04	W
	T_A=70℃		0.67	
Operating Junction and Storage Temperature Range		T_J	-55 to 150	℃
Thermal Resistance-Junction to Ambient		$R_{\theta JA}$	100	℃/W

Typical Characteristics

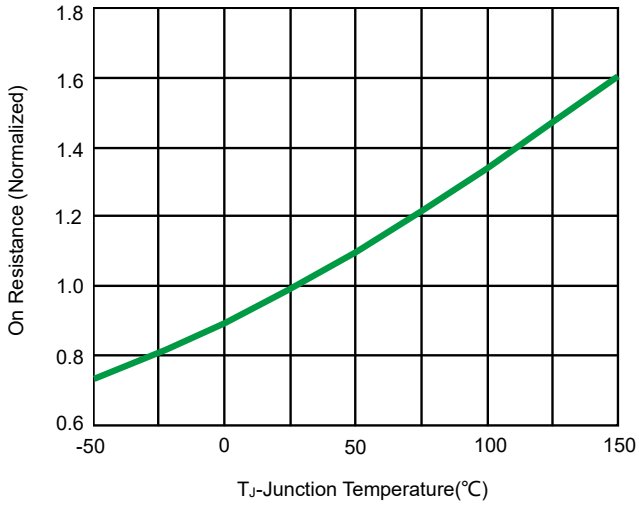


Fig 1. On Resistance vs. Junction Temperature

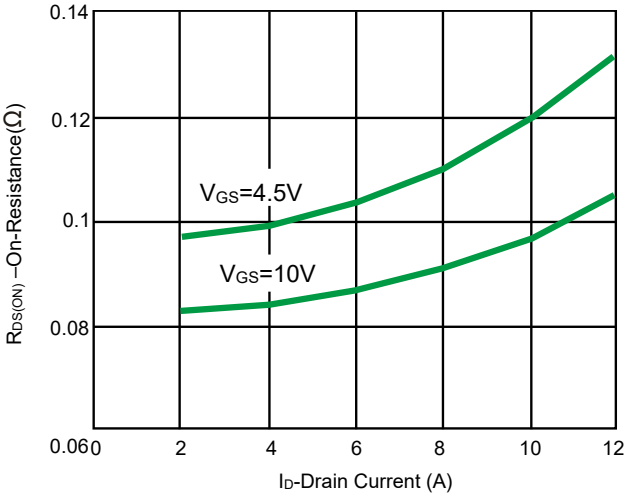


Fig 2. On-Resistance vs. Drain Current

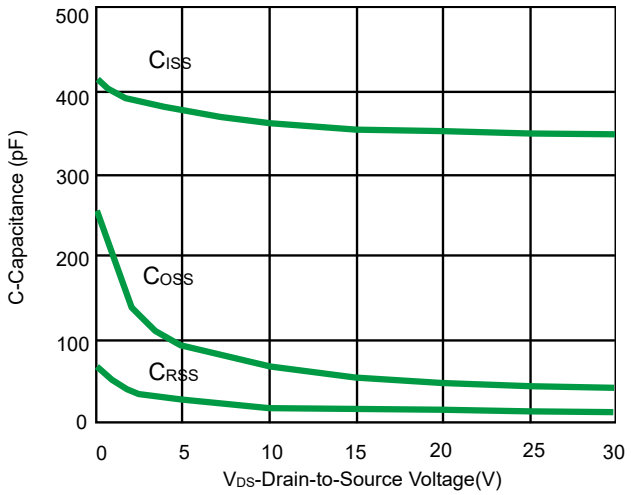


Fig 3. Capacitance

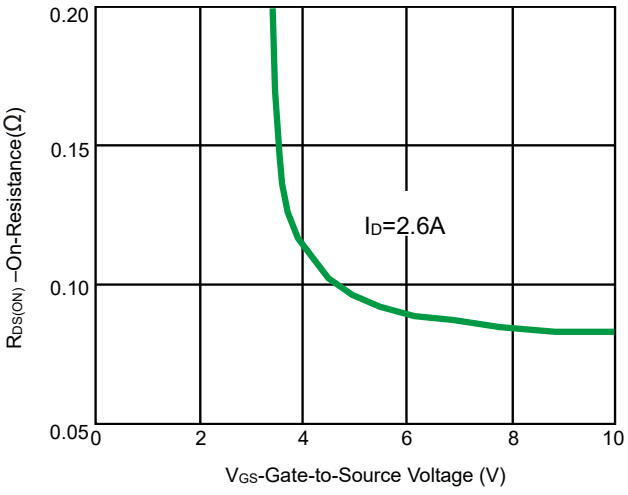


Fig 4. On-Resistance vs. Gate-to-Source Voltage

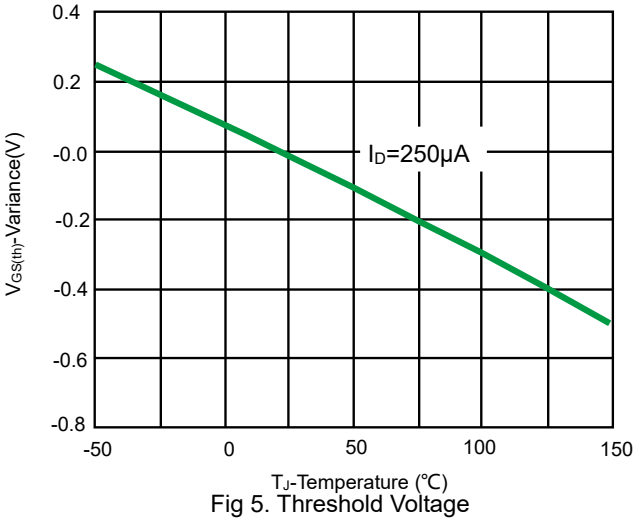


Fig 5. Threshold Voltage

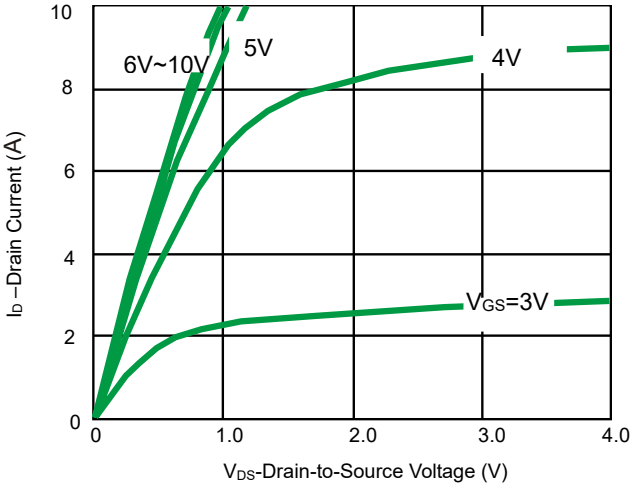


Fig 6. On-Region Characteristics

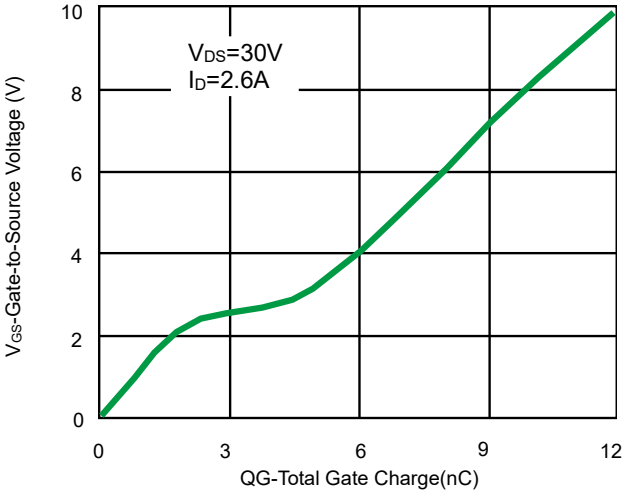


Fig 7. Gate Charge

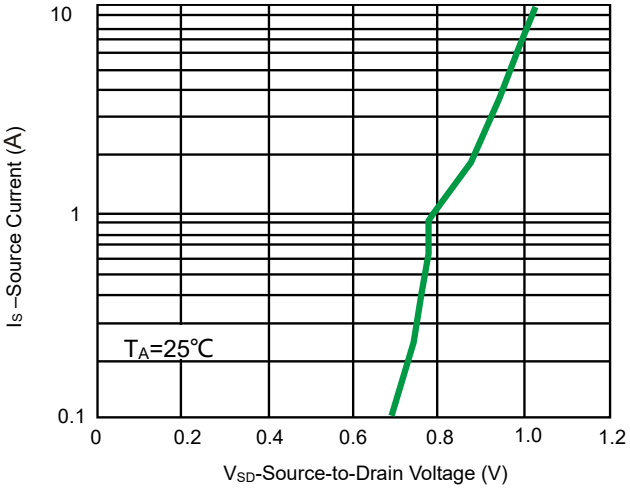


Fig 8. On-Resistance vs. Drain Current

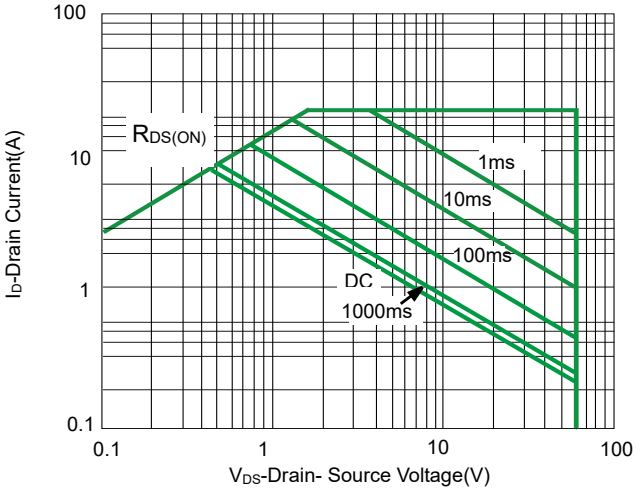


Fig 9. Maximum Forward Biased Safe Operating Area

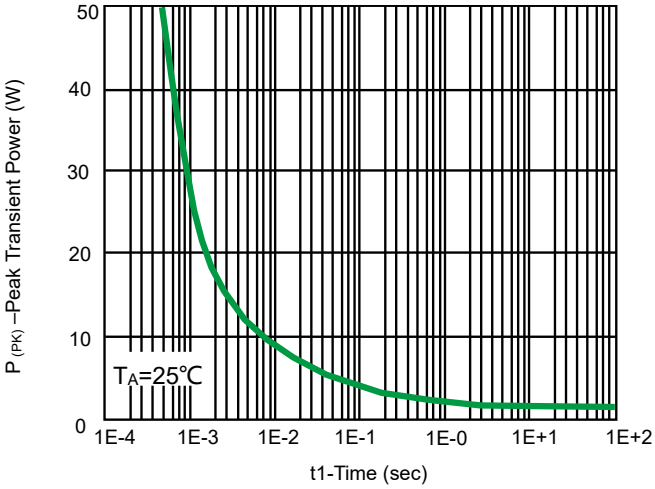


Fig 10. Single Pulse Maximum Power Dissipation

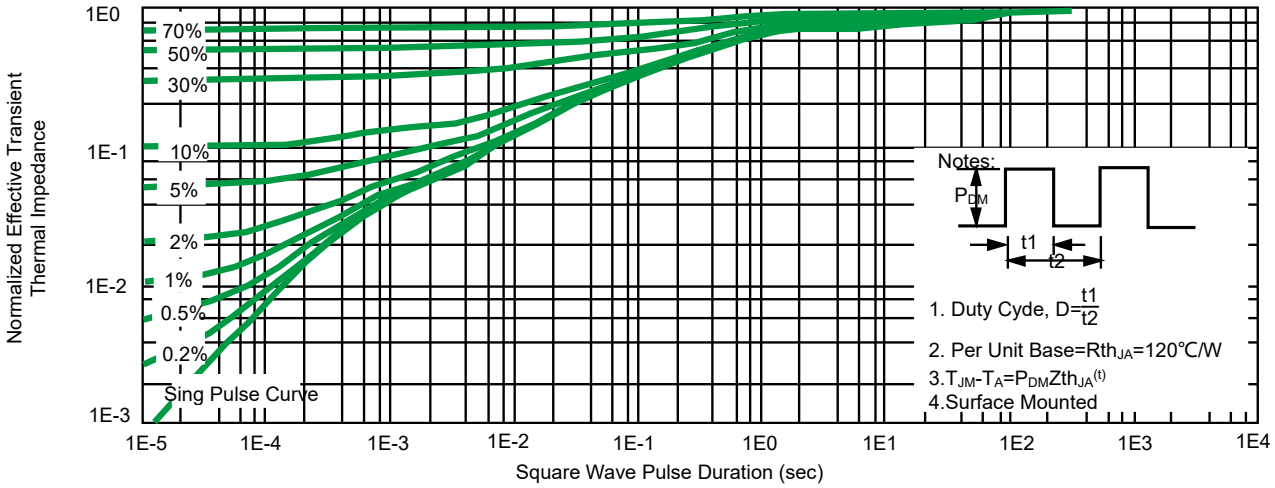
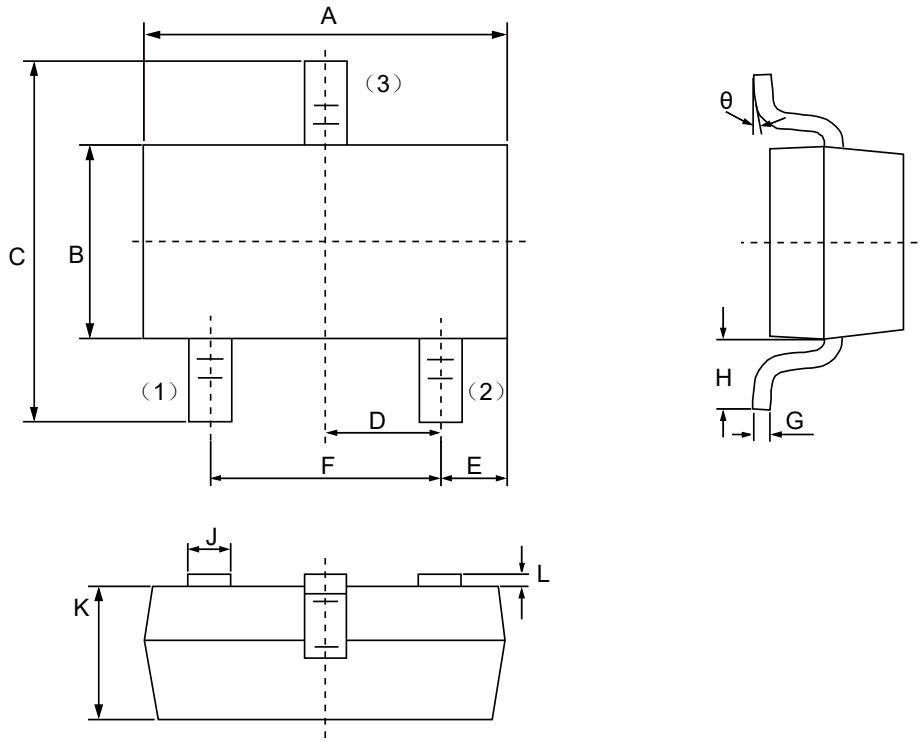
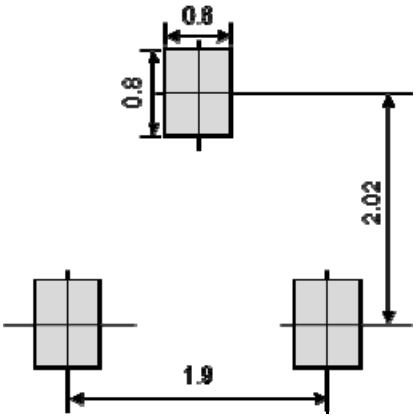


Fig 11.Normalized Thermal Transient Impedance, Junction-to-Ambient

Product dimension(SOT-23)



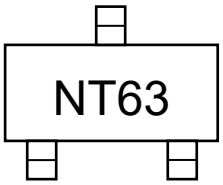
Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	2.80	3.00	0.1102	0.1197
B	1.20	1.40	0.0472	0.0551
C	2.10	2.50	0.0830	0.0984
D	0.89	1.02	0.0350	0.0401
E	0.45	0.60	0.0177	0.0236
F	1.78	2.04	0.0701	0.0807
G	0.085	0.177	0.0034	0.0070
H	0.45	0.60	0.0180	0.0236
J	0.37	0.50	0.0150	0.0200
K	0.89	1.11	0.0350	0.0440
L	0.013	0.100	0.0005	0.0040
θ	0°	10°	0°	10°



Unit:mm

Suggested PCB Layout

Marking information



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