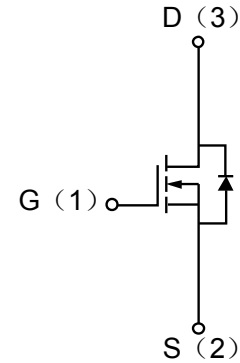


Description

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

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


Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
OFF/ON CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D = 250\mu A, V_{GS} = 0V$	60		-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 60V, V_{GS} = 0V$	-	-	1	μA
		$V_{DS} = 60V, V_{GS} = 0V, T_J = 55^\circ C$			10	
Gate-Body Leakage Current	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$	-	-	± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.7	-	2.0	V
Static Drain-Source On-Resistance ²	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 2.1A$	-	0.096	0.130	Ω
		$V_{GS} = 10V, I_D = 2.6A$	-	0.082	0.100	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	$t_{d(on)}$	$V_{DS} = 20V, V_{GS} = 10V,$ $R_G = 1\Omega, R_L = 20\Omega$ $I_D = 1A$	-	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°C

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

Typical Characteristics

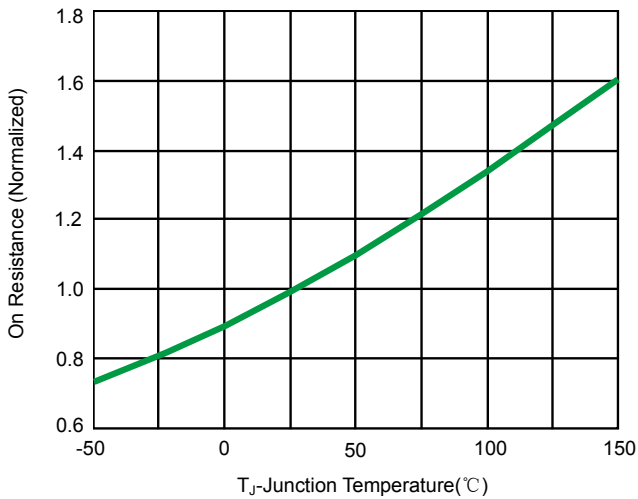


Fig 1. On Resistance vs. Junction Temperature

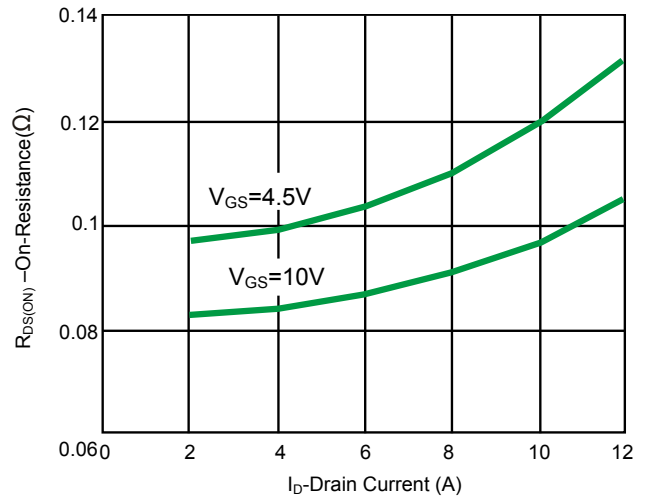


Fig 2. On-Resistance vs. Drain Current

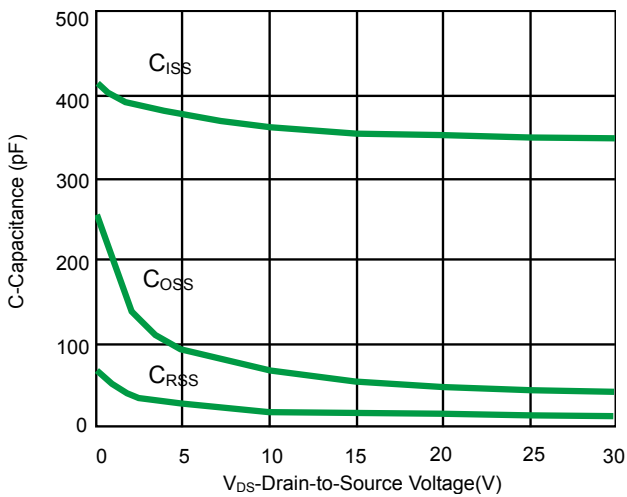


Fig 3. Capacitance

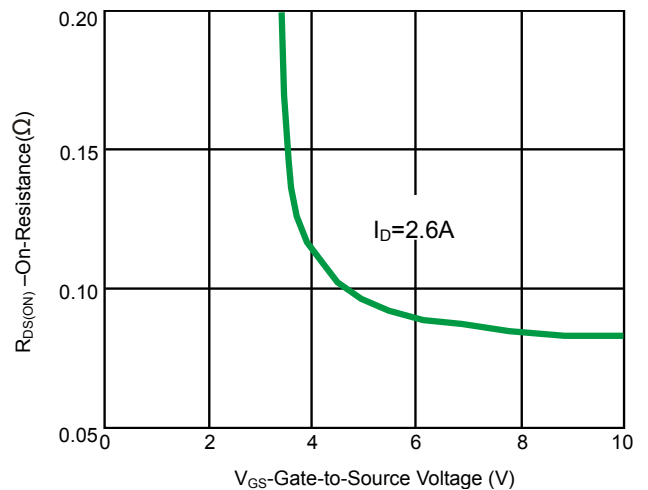


Fig 4. On-Resistance vs. Gate-to-Source Voltage

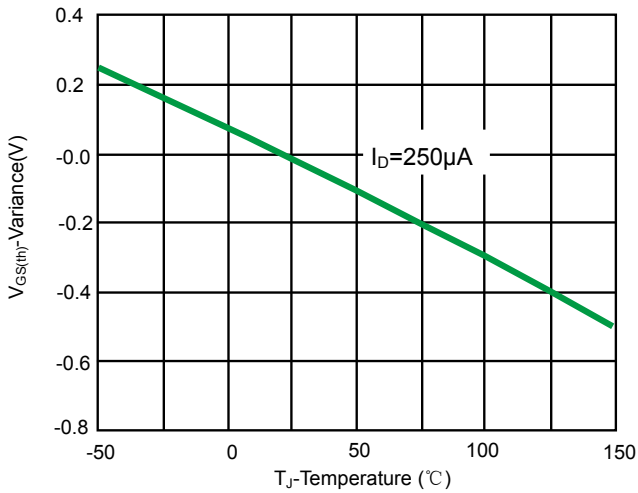


Fig 5. Threshold Voltage

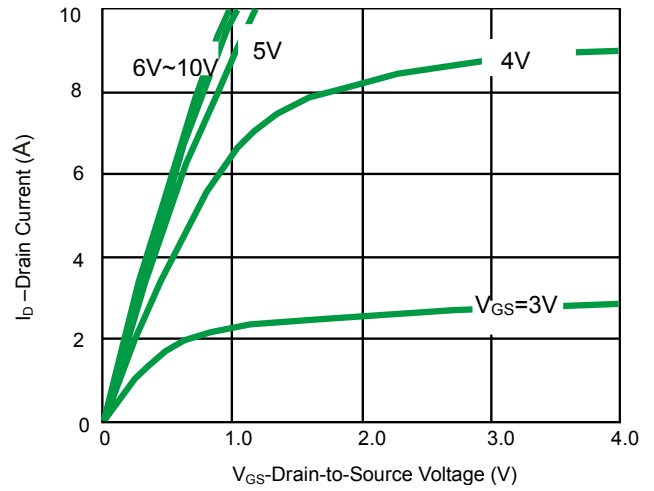


Fig 6. On-Region Characteristics

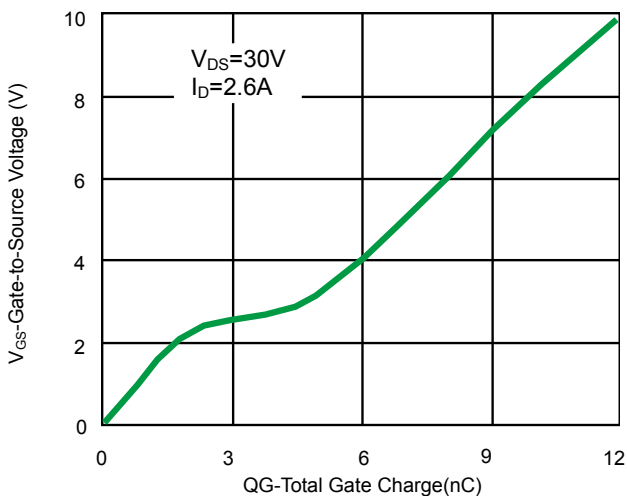


Fig 7. Gate Charge

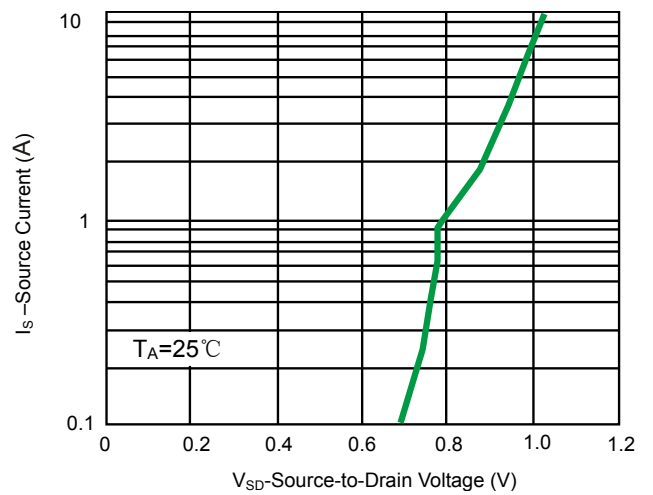


Fig 8. On-Resistance vs. Drain Current

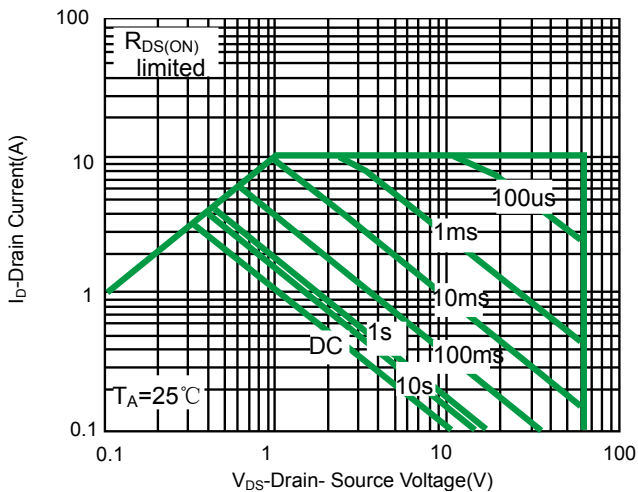


Fig 9. Maximum Forward Biased Safe Operating Area

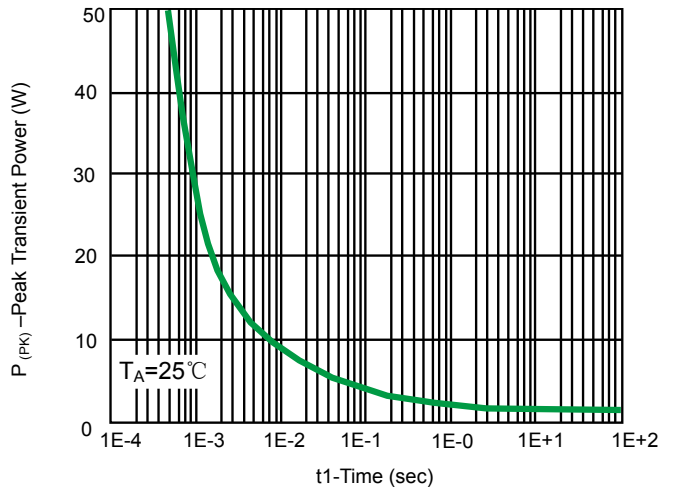


Fig 10. Single Pulse Maximum Power Dissipation

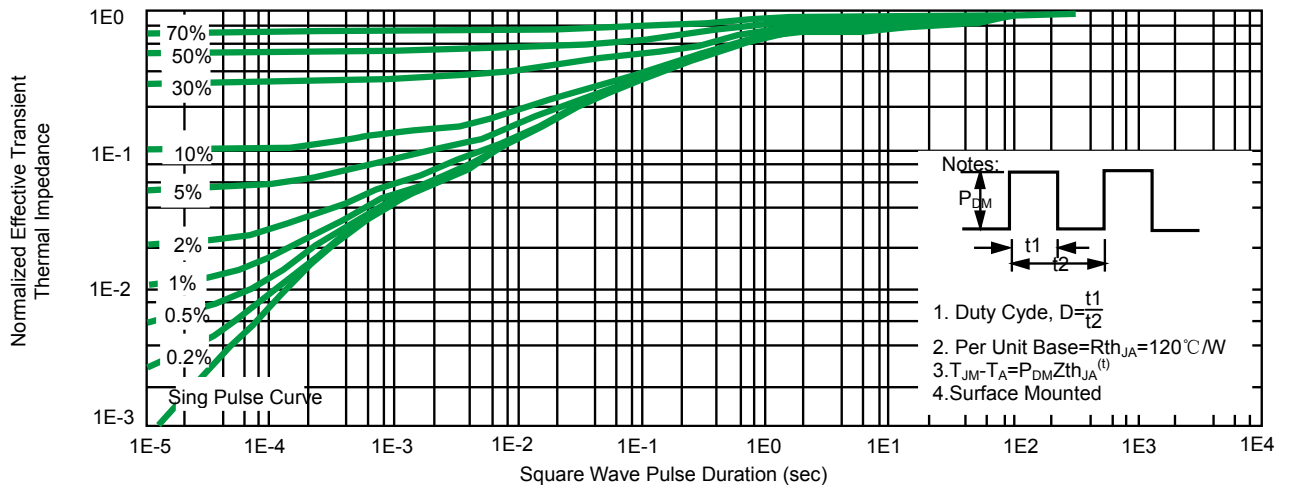
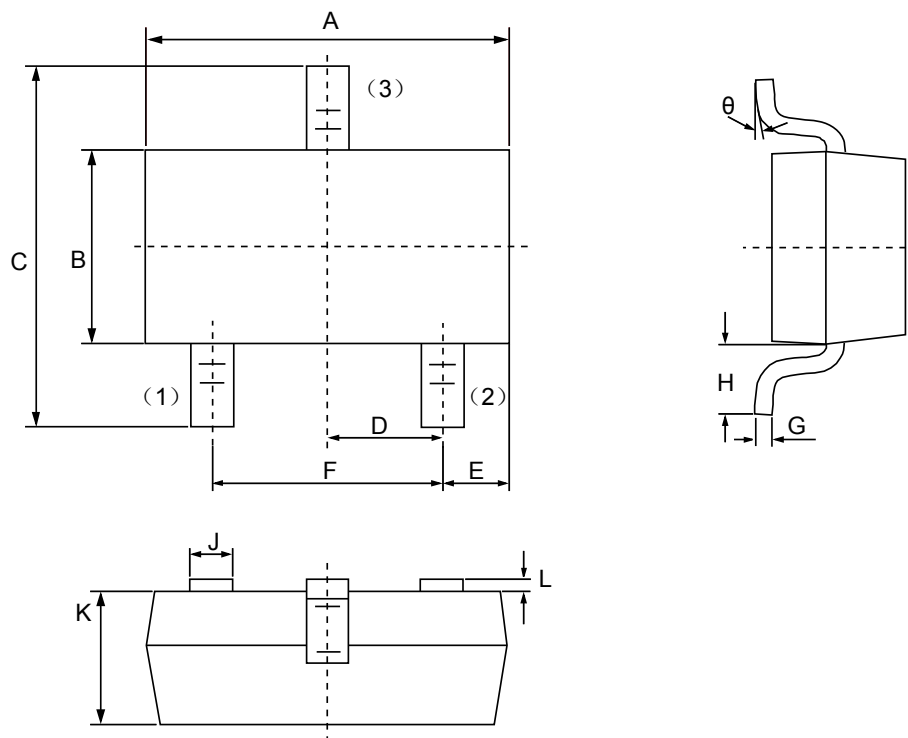



Fig 11. Normalized Thermal Transient Impedance, Junction-to-Ambient

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°


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