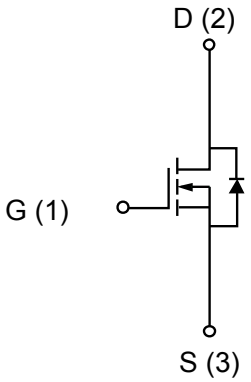
Description

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)
30	8.3@V_{GS}=10V	60



Absolute maximum rating@25℃

Parameter		Symbol	Maximum	Units
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	±20	V
Drain Current- Continuous(T_J=150℃)*	T_A=25℃	I_D	60	A
	T_A=70℃		40	
Drain Current-Pulsed		I_{DM}	100	A
Maximum Power Dissipation*	T_A=25℃	P_D	40	W
	T_A=70℃		25	
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	℃
Thermal Resistance, Junction-to-Ambient *		$R_{\theta JA}$	40	℃/W
Thermal Resistance, Junction-to-Case		$R_{\theta JC}$	3.1	℃/W

*The device mounted on 1in^2 FR4 board with 2 oz copper

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	I_D =250μA,V_{GS}=0V	30		-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =30V,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		3	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=4.5V, I_D =15A	-	14	18.5	mΩ
		V_{GS}=10V, I_D =30A		8.3	10	
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V,I_S=20A		0.87	1.5	V
Max. Diode Forward Current	I_S				20	A
Dynamic						
Input Capacitance	Ciss	V_{DS}=15V, V_{GS}=0V, f=1.0MHz		830		pF
Output Capacitance	Coss			150		
Reverse Transfer Capacitance	Crss			43		
Gate Resistance	Rg	f=1MHz		1		Ω
Total Gate Charge	Qg	V_{GS}=10V, V_{DS}=15V, I_D =25A		22		nC
Total Gate Charge	Qg	V_{GS}=4.5V, V_{DS}=15V, I_D =25A		11		nC
Gate-Source Charge	Qgs			5.4		
Gate-Drain Charge	Qgd			5.5		
Turn-On Delay Time	$t_{d(on)}$	V_{DD} =15V, V_{GEN} =10V, R_G=3Ω, R_L=15Ω, I_D =1.0A	-	13.5		ns
Turn-Off Delay Time	$t_{d(off)}$		-	42		
Turn-On Rise Time	t_r		-	13		
Turn-On Fall Time	t_f		-	4		

Typical Characteristics

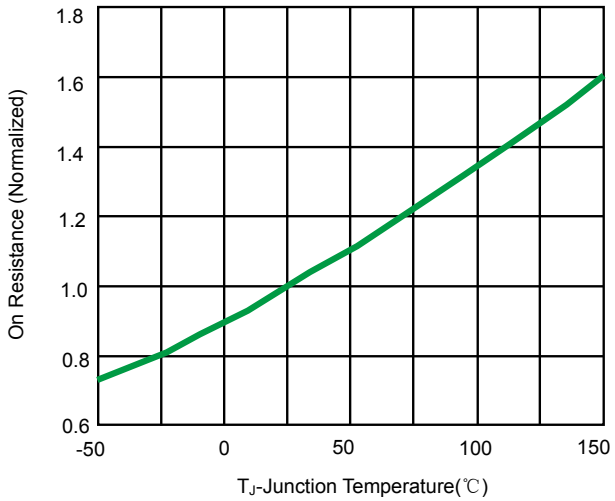


Fig 1. On Resistance vs. Junction Temperature

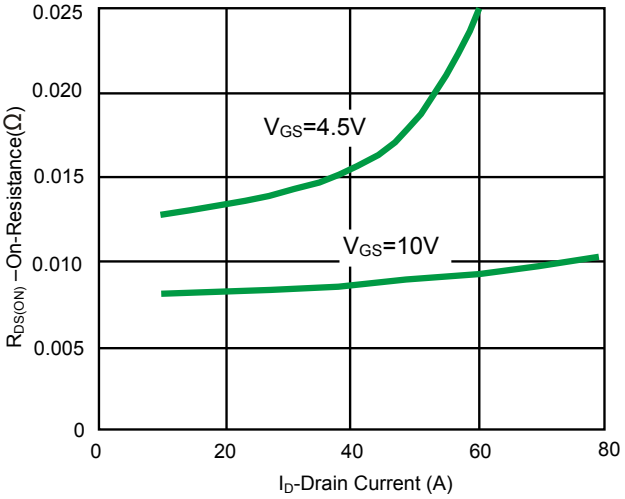


Fig 2. On-Resistance vs. Drain Current

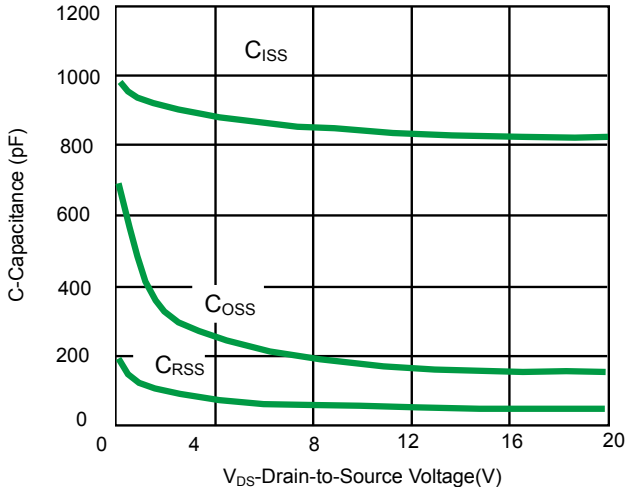


Fig 3. Capacitance

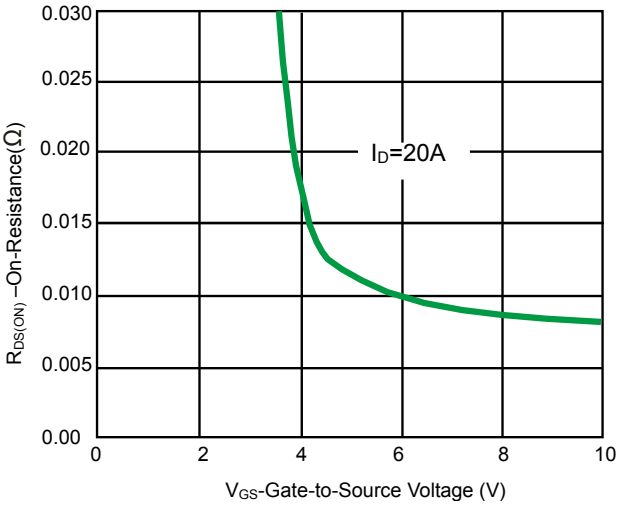


Fig 4. On-Resistance vs. Gate-to-Source Voltage

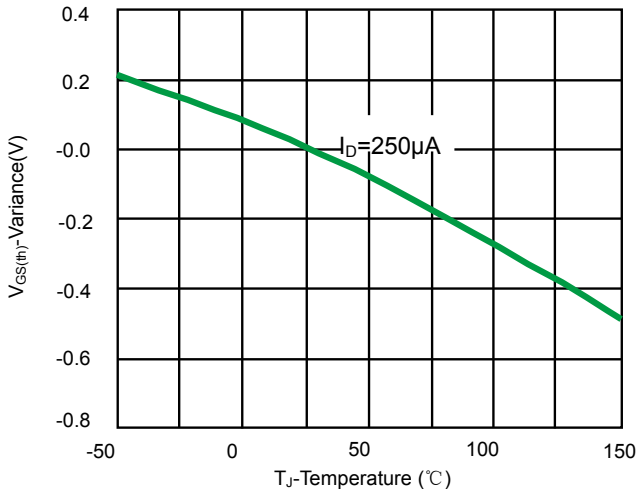


Fig 5. Threshold Voltage

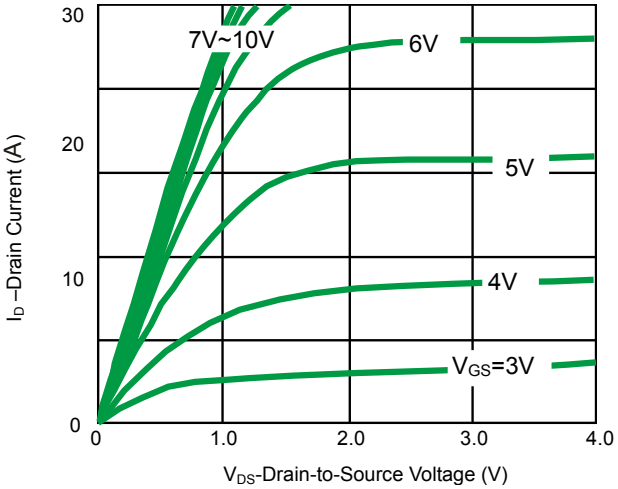


Fig 6. On-Region Characteristics

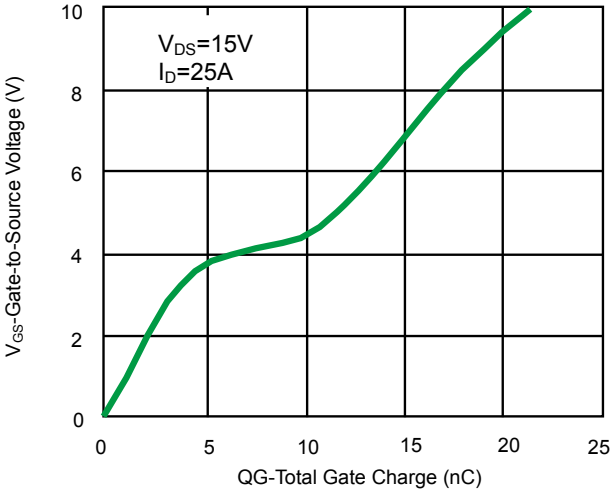


Fig 7. Gate Charge

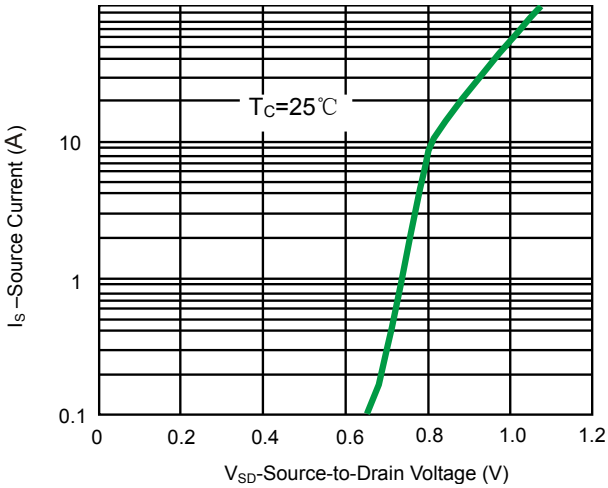


Fig 8. Source to Drain Diode Forward Voltage

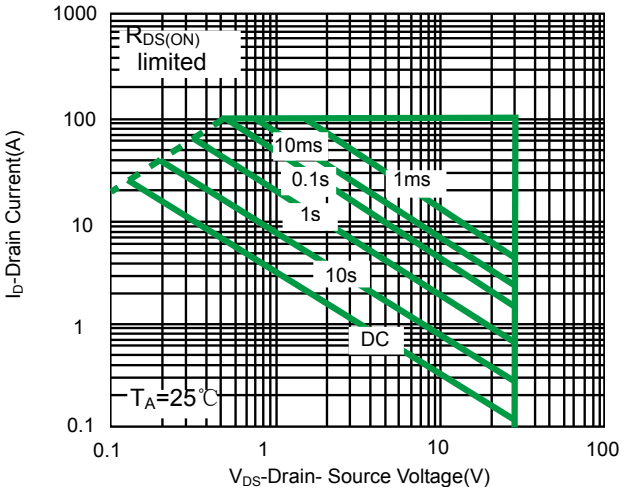


Fig 9. Maximum Forward Biased Safe Operating Area

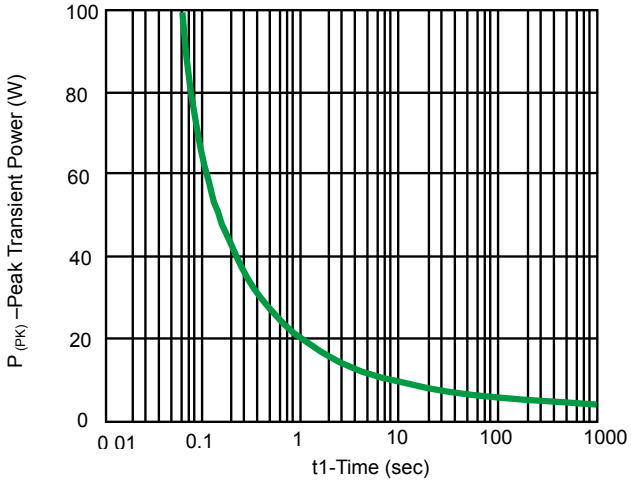


Fig 10. Single Pulse Maximum Power Dissipation

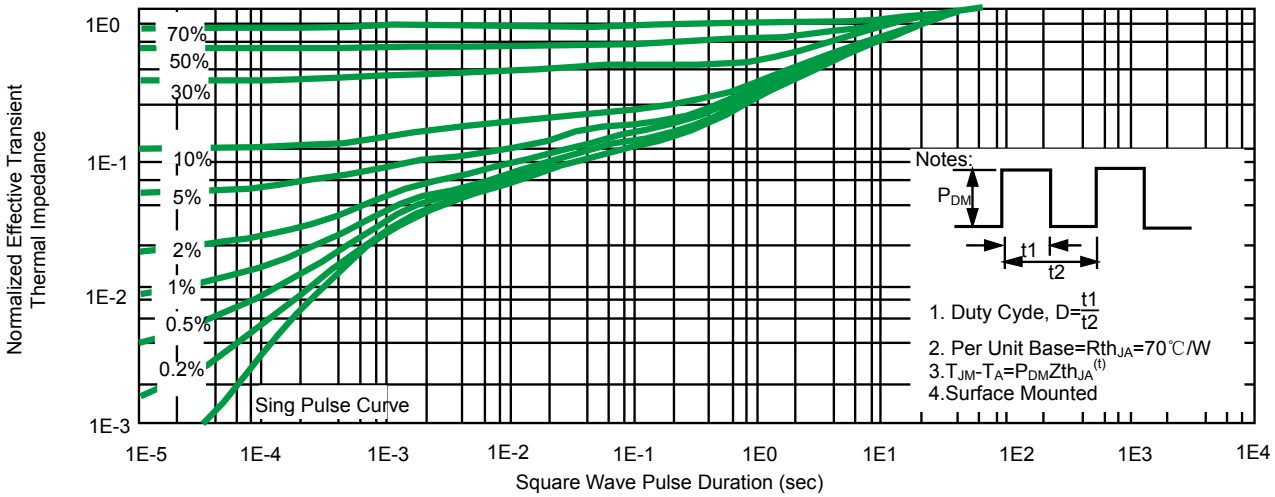
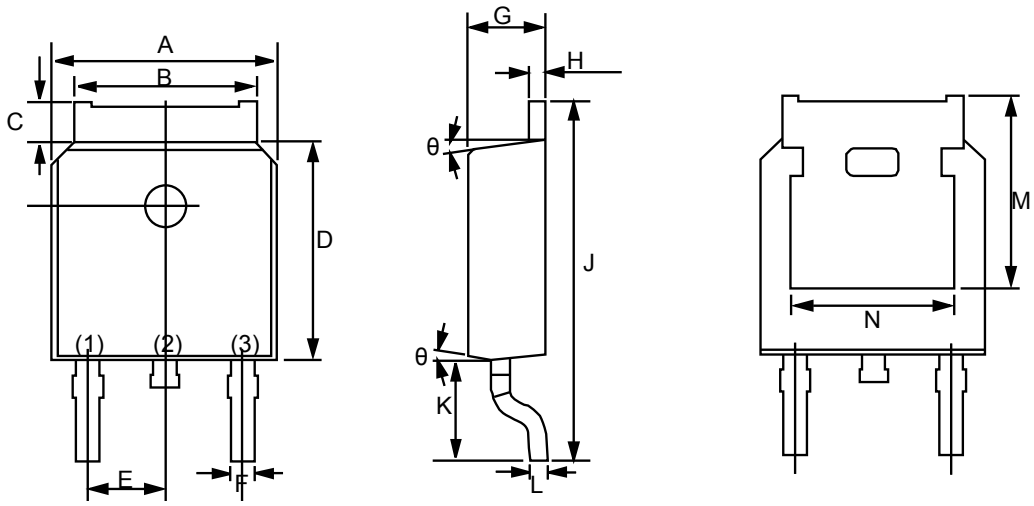


Fig 11.Normalized Thermal Transient Impedance, Junction-to-Ambient

Product dimension(TO-252)



Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	6.50	6.70	0.255	0.263
B	5.23	5.46	0.205	0.214
C	0.90	1.25	0.035	0.049
D	6.00	6.20	0.236	0.244
E	2.286BSC.		0.09BSC.	
F	0.72	0.85	0.028	0.033
G	2.20	2.38	0.086	0.093
H	0.47	0.58	0.018	0.022
J	9.90	10.30	0.389	0.405
K	2.90REF.		0.114REF.	
L	0.51BSC.		0.020BSC.	
M	5.30REF.		0.208REF.	
N	4.70	4.92	0.185	0.193
θ	5°	9°	5°	9°

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