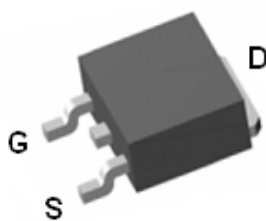


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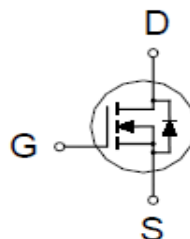
N-Channel Enhancement Mode MOSFET

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
600V	$2\Omega @ V_{GS} = 10V$	4A



TO-252



ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ }^{\circ}\text{C}$ Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	600	V
Gate-Source Voltage		V_{GS}	± 30	V
Continuous Drain Current ²	$T_C = 25\text{ }^{\circ}\text{C}$	I_D	4	A
	$T_C = 100\text{ }^{\circ}\text{C}$		2.4	
Pulsed Drain Current ^{1,2}		I_{DM}	20	
Avalanche Current ³		I_{AS}	3	
Avalanche Energy ³		E_{AS}	45	mJ
Power Dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	P_D	78	W
	$T_C = 100\text{ }^{\circ}\text{C}$		31	
Operating Junction & Storage Temperature Range		T_J, T_{stg}	-55 to 150	$^{\circ}\text{C}$

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		1.6	$^{\circ}\text{C} / \text{W}$
Junction-to-Ambient	$R_{\theta JA}$		62.5	

¹Pulse width limited by maximum junction temperature.

²Limited only by maximum temperature allowed.

³ $V_{DD} = 50V$, $L = 10mH$, starting $T_J = 25\text{ }^{\circ}\text{C}$.

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ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	600			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	2.5	3.1	4.5	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±30V			±100	nA
Gate Voltage Drain Current	I _{DSS}	V _{DS} = 600V, V _{GS} = 0V , T _C = 25 °C			25	μA
		V _{DS} = 480V, V _{GS} = 0V, T _J = 100°C			250	
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 10V, I _D = 2A		1.8	2	Ω
Forward Transconductance ¹	g _{fs}	V _{DS} = 15V, I _D = 2A		4		S
DYNAMIC						
Input Capacitance	C _{iSS}	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz		695		pF
Output Capacitance	C _{oss}			78		
Reverse Transfer Capacitance	C _{rSS}			12		
Total Gate Charge ²	Q _g	V _{DD} = 480V, I _D = 4A, V _{GS} = 10V		19.2		nC
Gate-Source Charge ²	Q _{gs}			4.3		
Gate-Drain Charge ²	Q _{gd}			7.7		
Turn-On Delay Time ²	t _{d(on)}	V _{GS} = 0V , V _{DD} = 300V, I _D = 4A, R _G = 25Ω		23		nS
Rise Time ²	t _r			28		
Turn-Off Delay Time ²	t _{d(off)}			44		
Fall Time ²	t _f			44		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _J = 25 °C)						
Continuous Current ³	I _S				4	A
Forward Voltage ¹	V _{SD}	I _F = 4A, V _{GS} = 0V			1.5	V
Reverse Recovery Time	t _{rr}	I _F = 4A, dl _F /dt = 100A / μS		346		nS
Reverse Recovery Charge	Q _{rr}			2.4		μC

¹Pulse test : Pulse Width $\leq 300\mu\text{sec}$, Duty Cycle $\leq 2\%$.

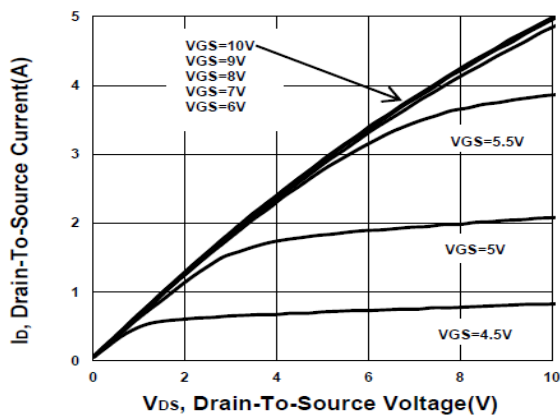
²Independent of operating temperature.

³Pulse width limited by maximum junction temperature.

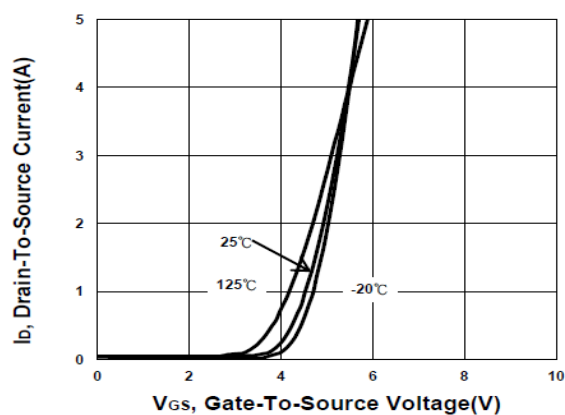
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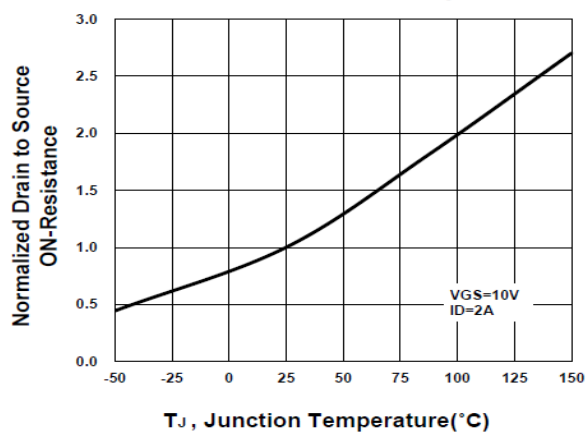
Output Characteristics



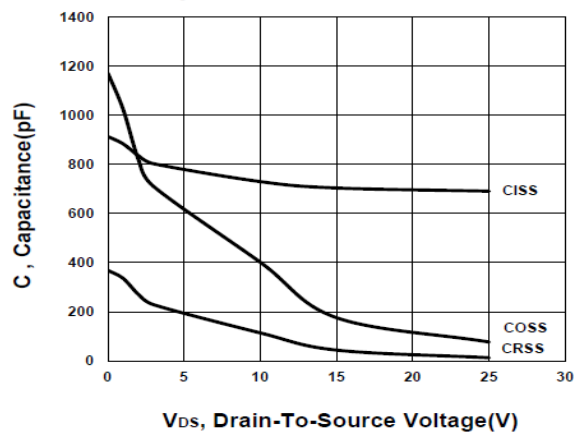
Transfer Characteristics



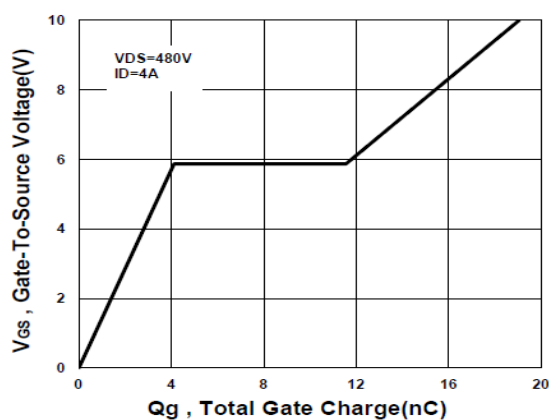
On-Resistance VS Temperature



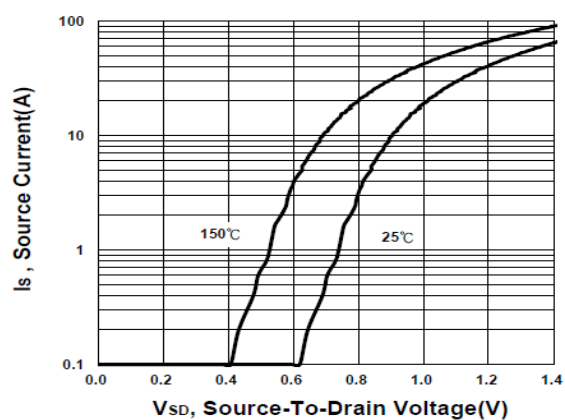
Capacitance Characteristic



Gate charge Characteristics



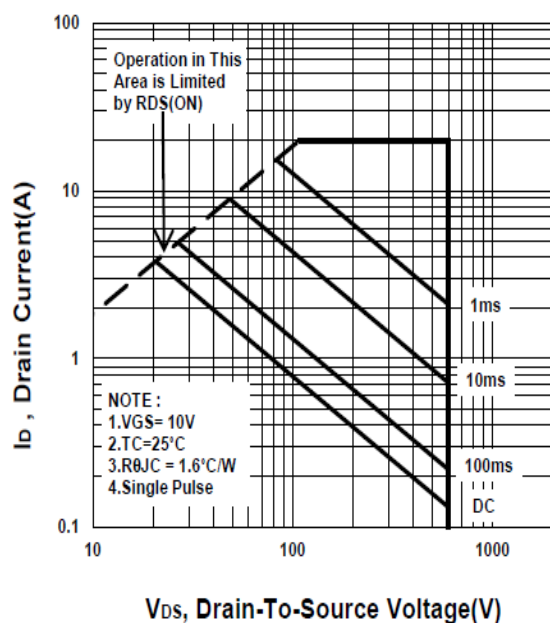
Source-Drain Diode Forward Voltage



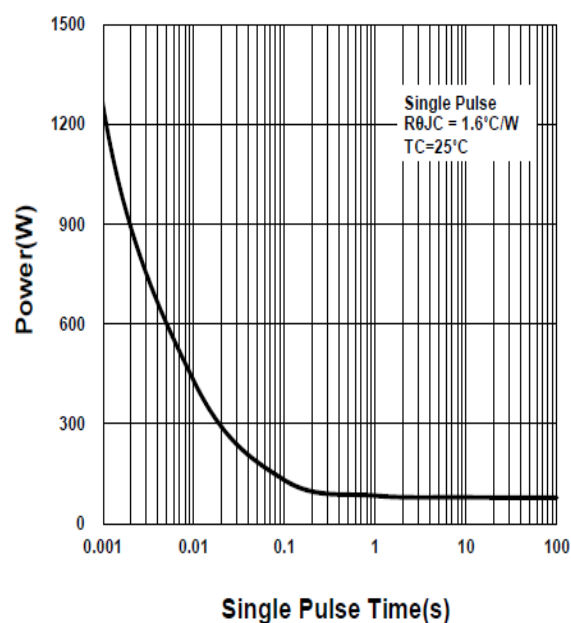
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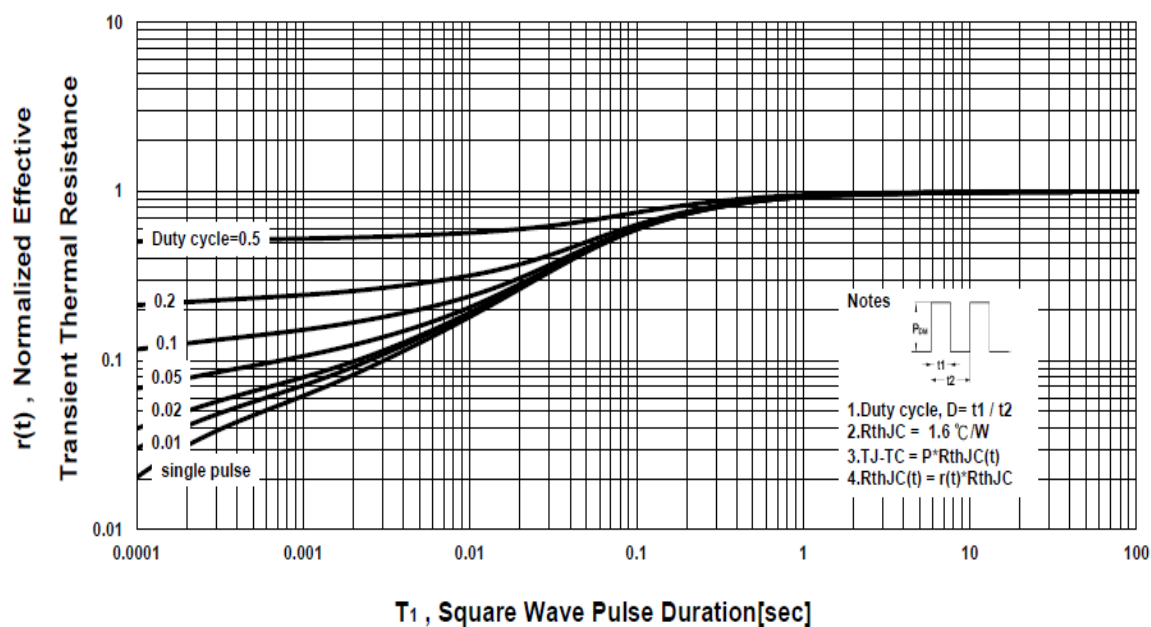
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



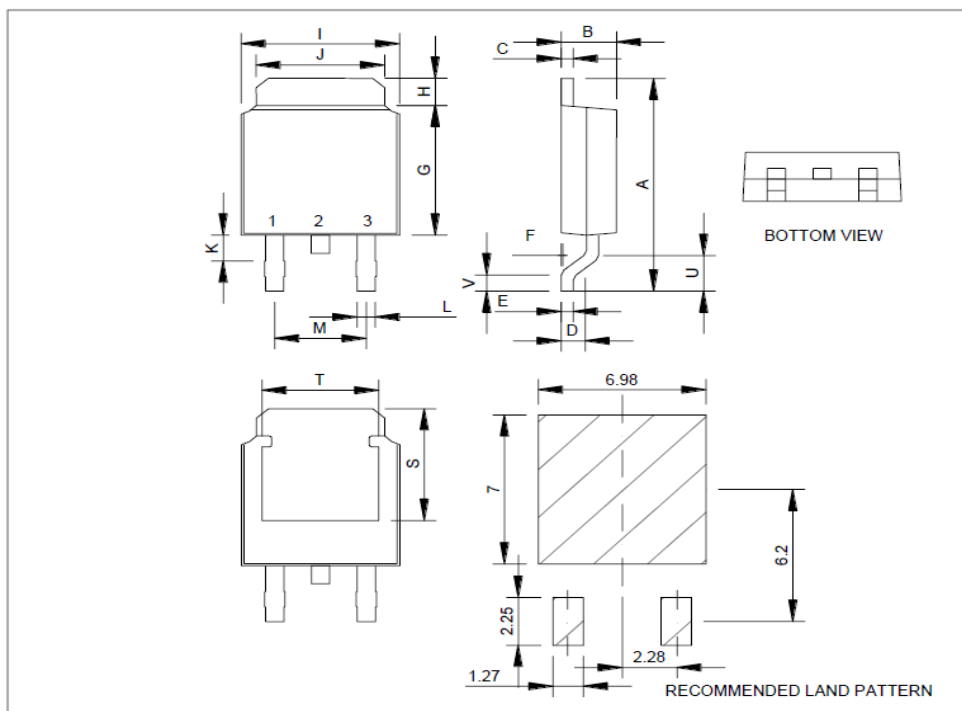
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Package Dimension

TO-252 (DPAK) MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	8.9	10	10.41	J	4.8		5.64
B	2.1	2.2	2.4	K	0.15		1.1
C	0.4	0.5	0.61	L	0.4	0.76	0.89
D	0.82	1.2	1.5	M	4.2	4.58	5
E	0.4	0.5	0.61	S	4.9	5.1	5.3
F	0		0.2	T	4.6	4.75	5.44
G	5.3	6.1	6.3	U	1.4		1.78
H	0.9		1.7	V	0.55	1.25	1.7
I	6.3	6.5	6.8				



*因为各家封装模具不同而外观略有所差异，不影响电性及Layout。