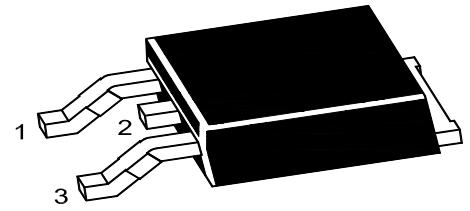


Features

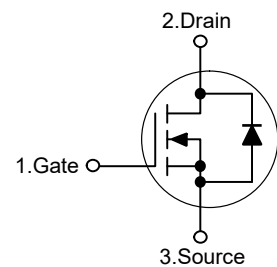
- Fast Switching
- Low Gate Charge and $R_{DS(on)}$
- Low Reverse transfer capacitances
- $V_{DS} = 650V, I_D = 5A$
 $R_{DS(on)} < 2.1\Omega @ V_{GS} = 10V$

TO-252

1. Gate 2.Drain 3.Source

Applications

- Power switch circuit of adaptor and charger

Schematic Diagram**Absolute Maximum Ratings**

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	650	V
Gate-Source Voltage	V_{GS}	± 30	V
Drain Current-Continuous	I_D	5	A
Drain Current-Pulsed ^{Note1}	I_{DM}	20	A
Single pulse avalanche energy ^{Note4}	E_{AS}	200	mJ
Maximum Power Dissipation	P_D	85	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance,Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	100	°C/W
Maximum Junction-to-Case ^{Note2}	$R_{\theta JC}$	1.47	°C/W

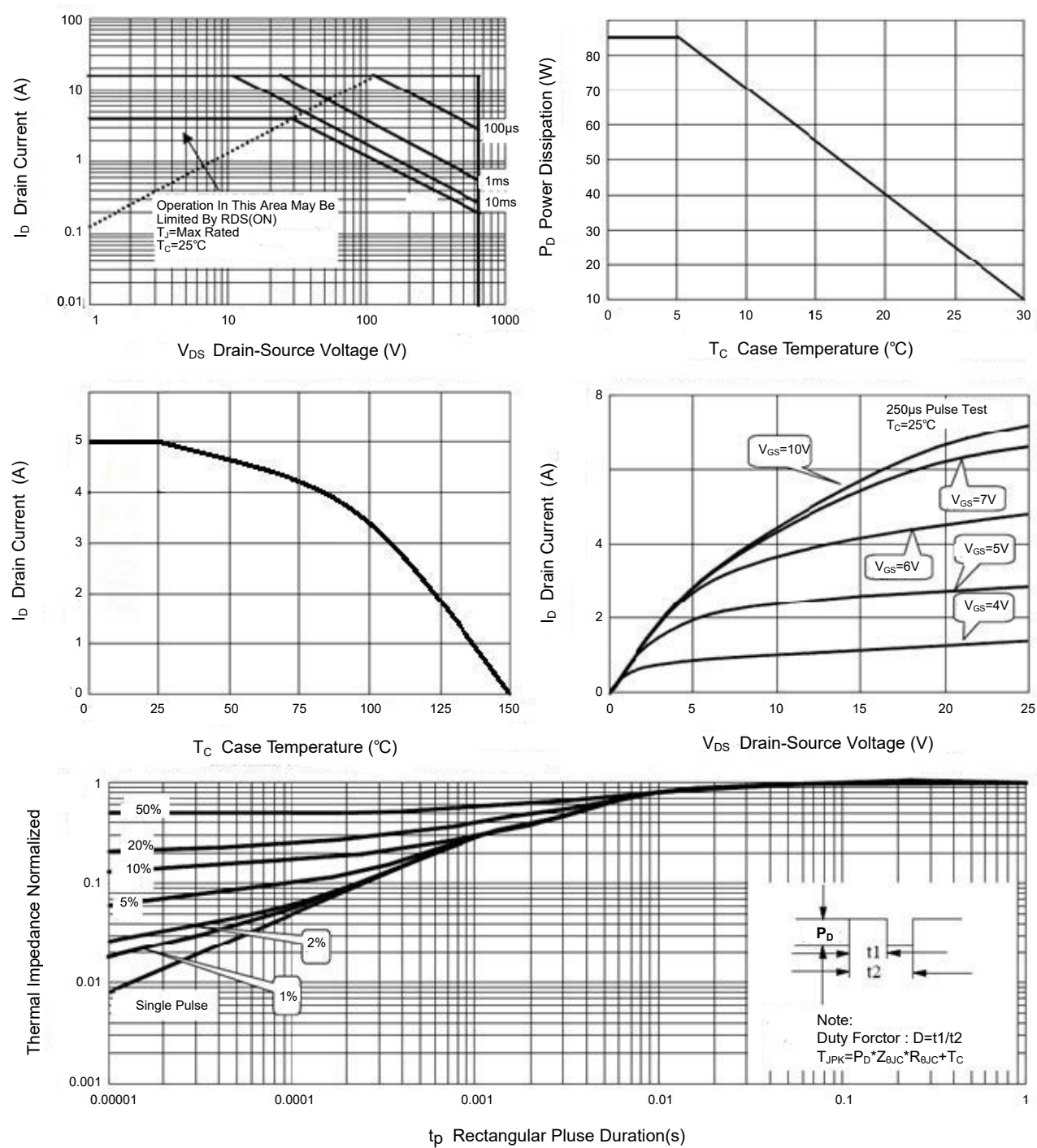
Electrical Characteristics

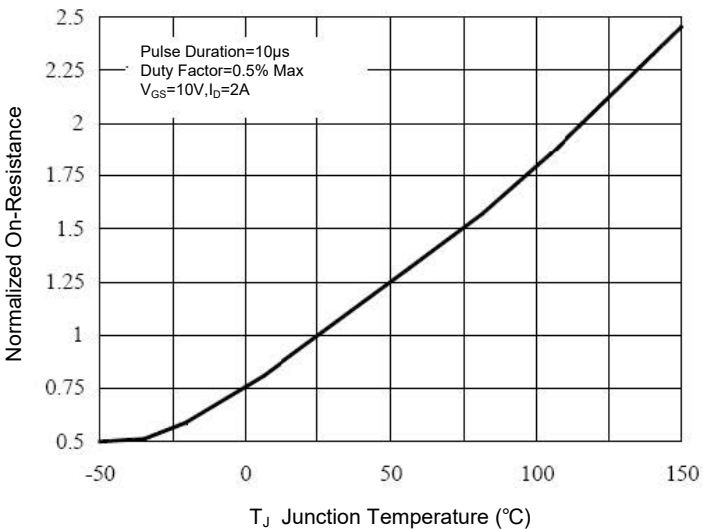
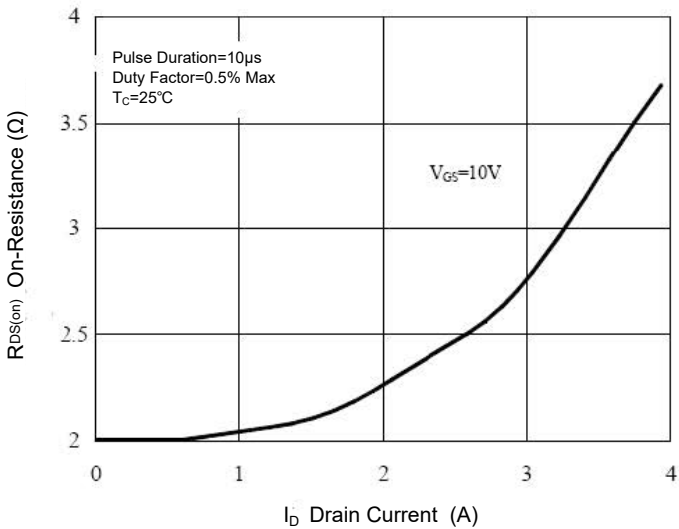
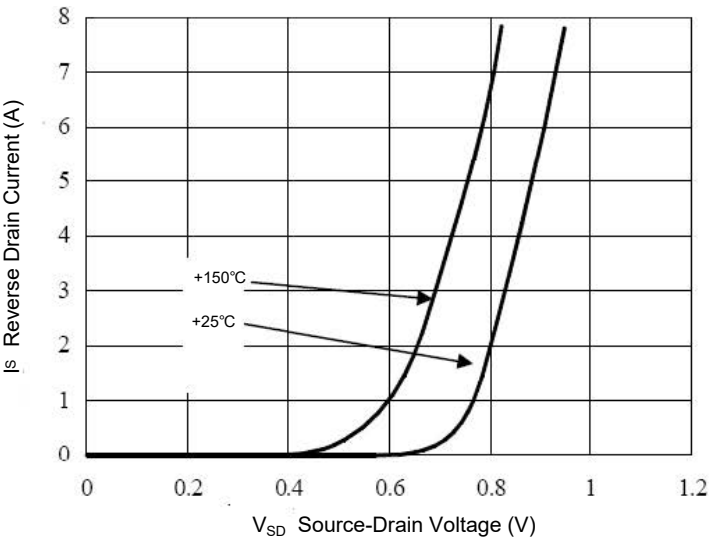
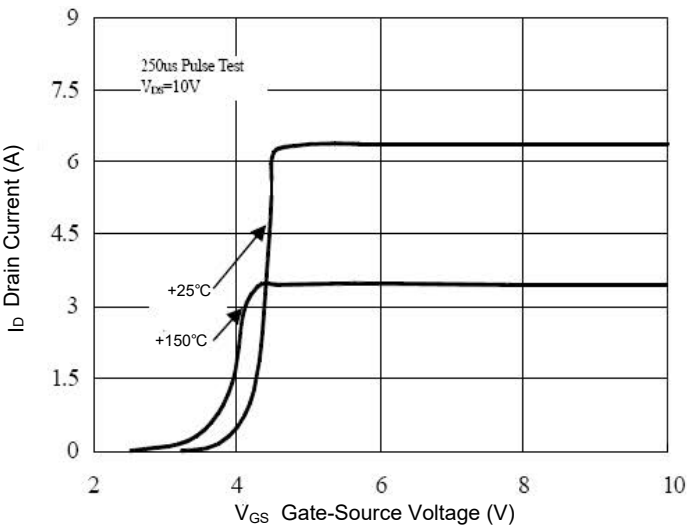
(Ta=25°C unless otherwise specified)

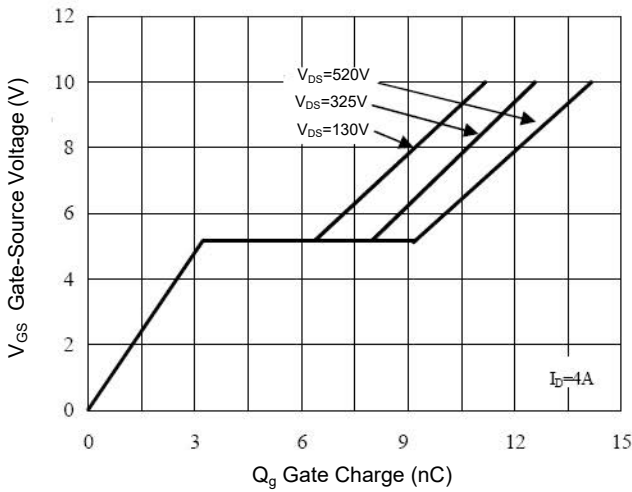
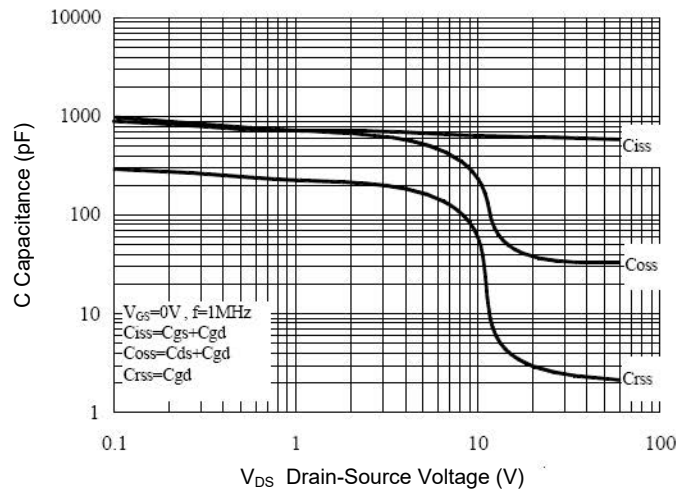
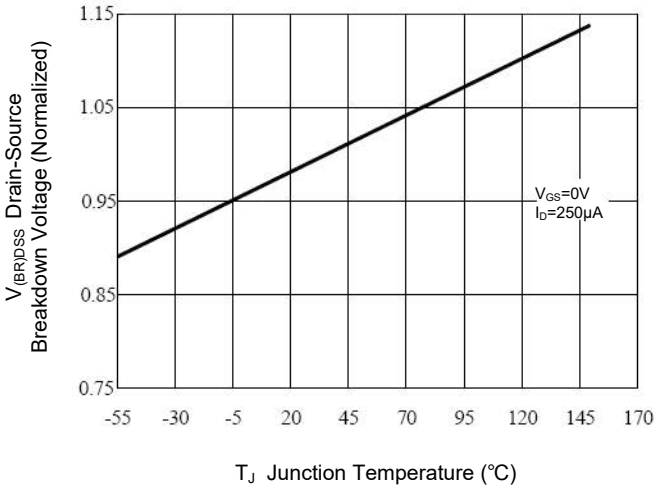
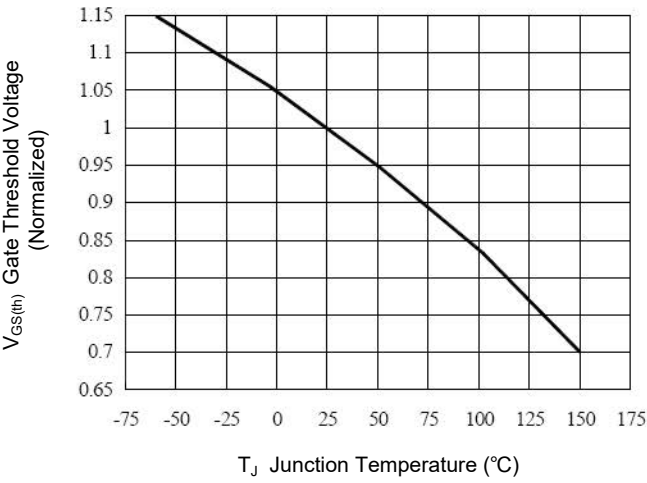
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	650	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =650V, V _{GS} =0V	--	--	1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±30V, V _{DS} =0V	--	--	±100	nA
Gate Threshold Voltage ^{Note3}	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	2	--	4	V
Drain-Source On-Resistance ^{Note3}	R _{DS(on)}	V _{GS} =10V, I _D =2.5A	--	1.9	2.1	Ω
Forward Transconductance ^{Note3}	g _{FS}	V _{DS} =15V, I _D =2.5A	--	3.5	--	S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1MHz	--	610	--	pF
Output Capacitance	C _{oss}		--	53	--	pF
Reverse Transfer Capacitance	C _{rss}		--	3.5	--	pF
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =325V, I _D =4A V _{GS} =10V, R _G =10Ω	--	14	--	nS
Turn-on Rise Time	t _r		--	16	--	nS
Turn-off Delay Time	t _{d(off)}		--	32	--	nS
Turn-off Fall Time	t _f		--	11	--	nS
Total Gate Charge	Q _g	V _{DD} =520V, I _D =4A, V _{GS} =10V	--	14.5	--	nC
Gate-Source Charge	Q _{gs}		--	3	--	nC
Gate-Drain Charge	Q _{gd}		--	6.5	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	V _{SD}	V _{GS} =0V, I _S =5A	--	--	1.5	V
Diode Forward Current ^{Note2}	I _S		--	--	5	A

Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t ≤ 10 sec.
3. Pulse Test: Pulse width < 380μs, duty cycle < 2%.
4. EAS condition : L=10mH, ID=6.3A, start TJ=25°C.

Typical Characteristic Curves







Dimensions in mm



Contact Information

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For additional information, please contact your local Sales Representative.

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Product Specification Statement

The product specification aims to provide users with a reference regarding various product parameters, performance, and usage. It presents certain aspects of the product's performance in graphical form and is intended solely for users to select product and make product comparisons, enabling users to better understand and evaluate the characteristics and advantages of the product. It does not constitute any commitment, warranty, or guarantee.

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