

Kingtronics®

KT4N65

N-Channel Power MOSFET

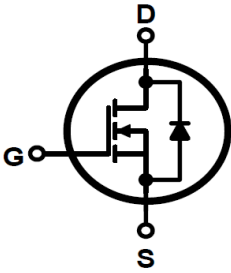
FEATURES

Fast Switching
 ESD Improved Capability
 Low Gate Charge (Typical Data: 14.5nC)
 Low Reverse transfer capacitances(Typical:3.5pF)
 100%Single Pulse avalanche energy Test

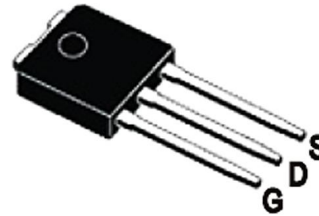
PRODUCT SUMMARY

V_{DSS}	650	V
I_D	4	A
$P_D(T_C=25^\circ\text{C})$	60	W
$R_{DS(ON)MAX}$	2.4	Ω

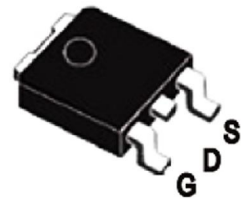
Schematic Diagram (N-Channel)



TO-251



TO-252



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

$T_C = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Rating	Units
Drain-source Voltage	V_{DS}	650	V
Gate-source Voltage	V_{GS}	± 30	V
Drain Current	I_D	$T_C=25^\circ\text{C}$	4.0
		$T_C=100^\circ\text{C}$	2.5
Drain Current Pulsed	I_{DM}	16	A
Power Dissipation($T_C=25^\circ\text{C}$) -Derate above 25°C	P_D	60	W
		0.48	W/ $^\circ\text{C}$
Single Pulsed Avalanche Energy(Note 1)	E_{AS}	40	mJ
Operation Junction Temperature Range	T_J	-55 to 150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to 150	$^\circ\text{C}$

Notes: 1. $L=20\text{mH}$, $I_{AS}=2.00\text{A}$, $V_{DD}=50\text{V}$, $R_G=25\Omega$, starting $T_J=25^\circ\text{C}$;

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RATING AND CHARACTERISTIC CURVES

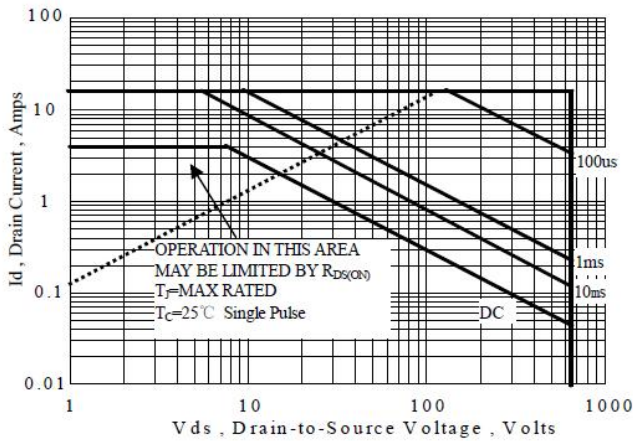


Figure 1 Maximum Forward Bias Safe Operating Area

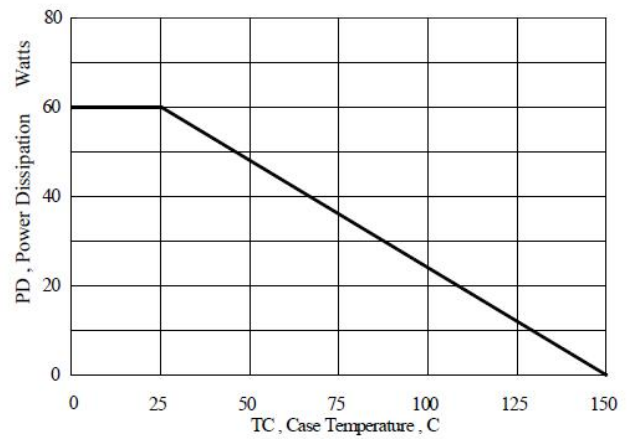


Figure 2 Maximum Power Dissipation vs Case Temperature

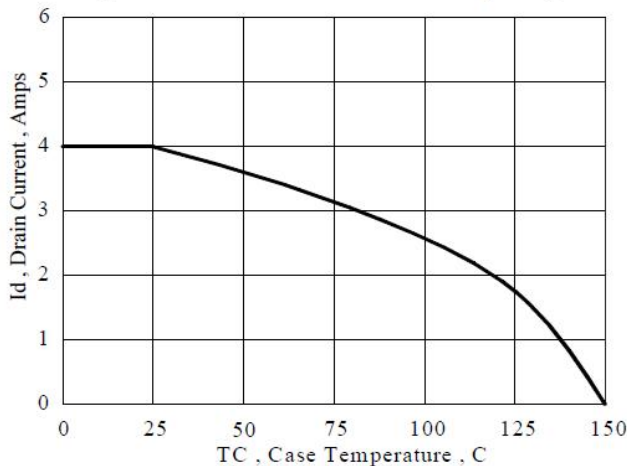


Figure 3 Maximum Continuous Drain Current vs Case Temperature

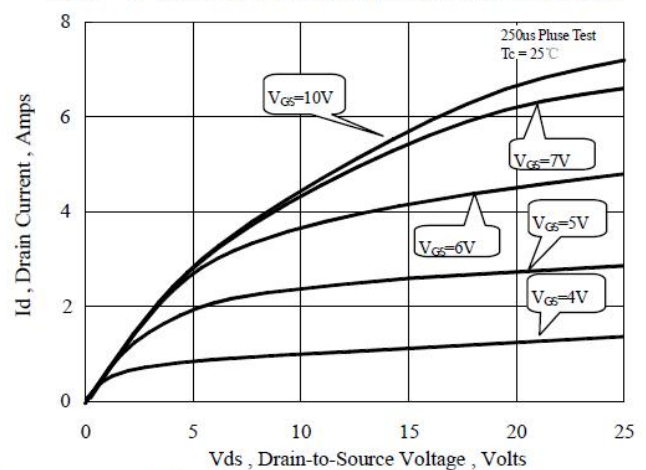


Figure 4 Typical Output Characteristics

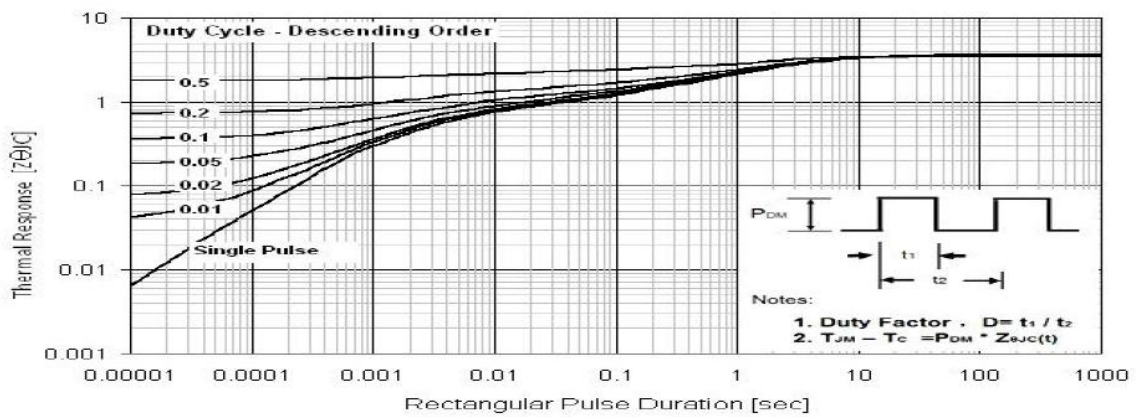


Figure 5 Maximum Effective Thermal Impedance Function to Case

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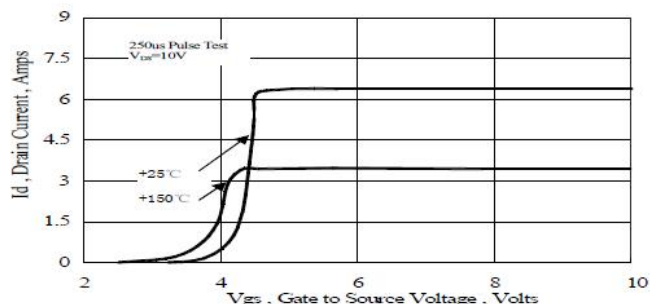


Figure 6 Typical Transfer Characteristics

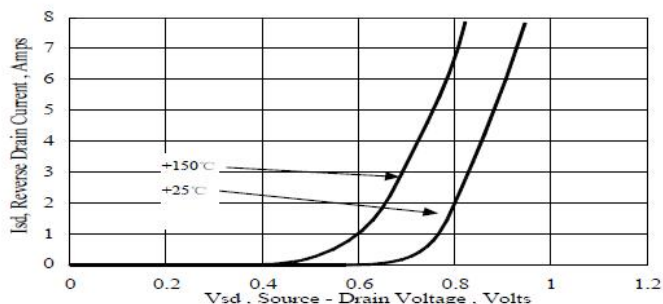


Figure 7 Typical Body Diode Transfer Characteristics

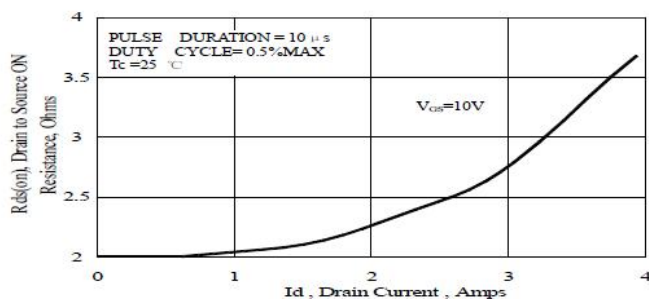


Figure 8 Typical Drain to Source ON Resistance vs Drain Current

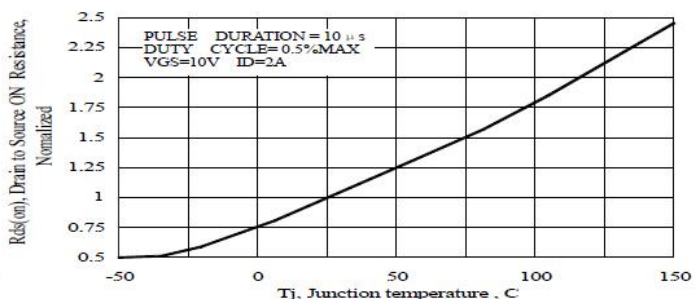


Figure 9 Typical Drain to Source ON Resistance vs Junction Temperature

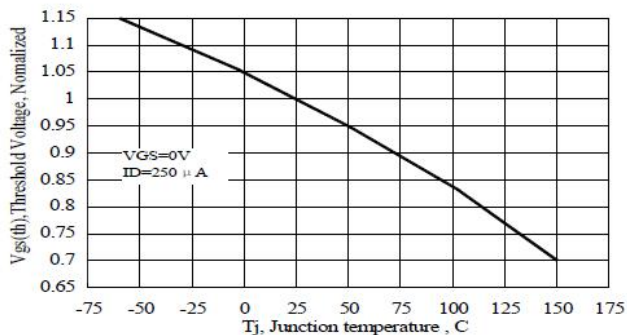


Figure 10 Typical Threshold Voltage vs Junction Temperature

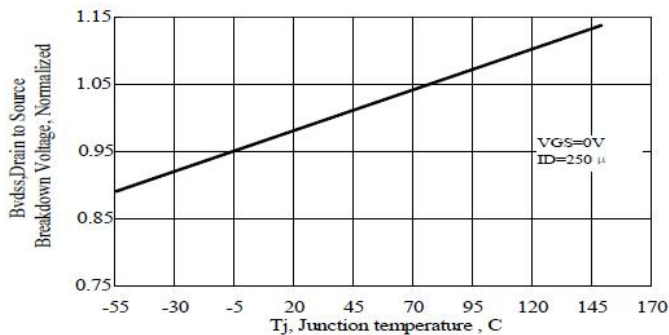


Figure 11 Typical Breakdown Voltage vs Junction Temperature

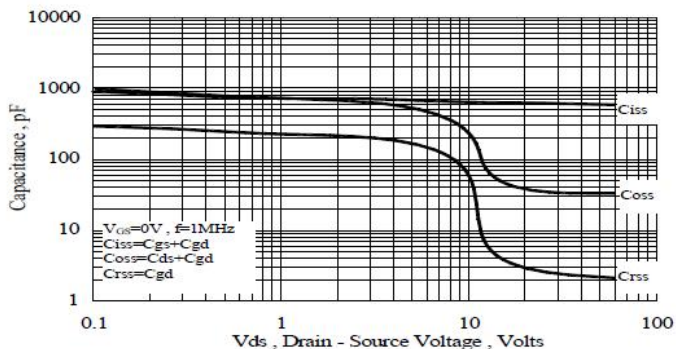


Figure 12 Typical Capacitance vs Drain to Source Voltage

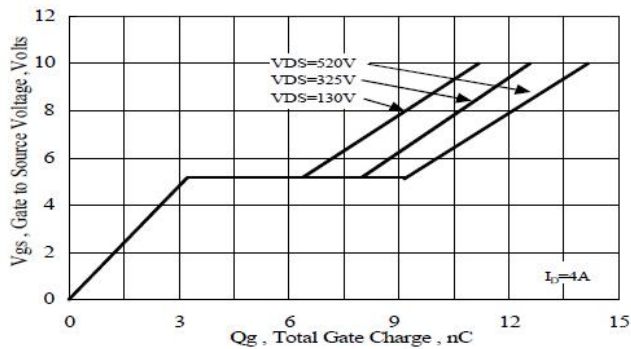


Figure 13 Typical Gate Charge vs Gate to Source Voltage

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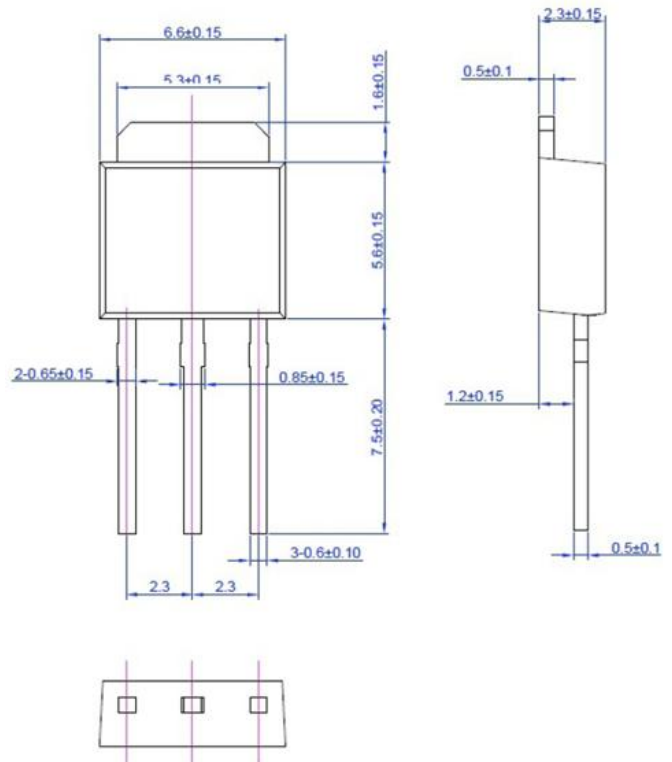
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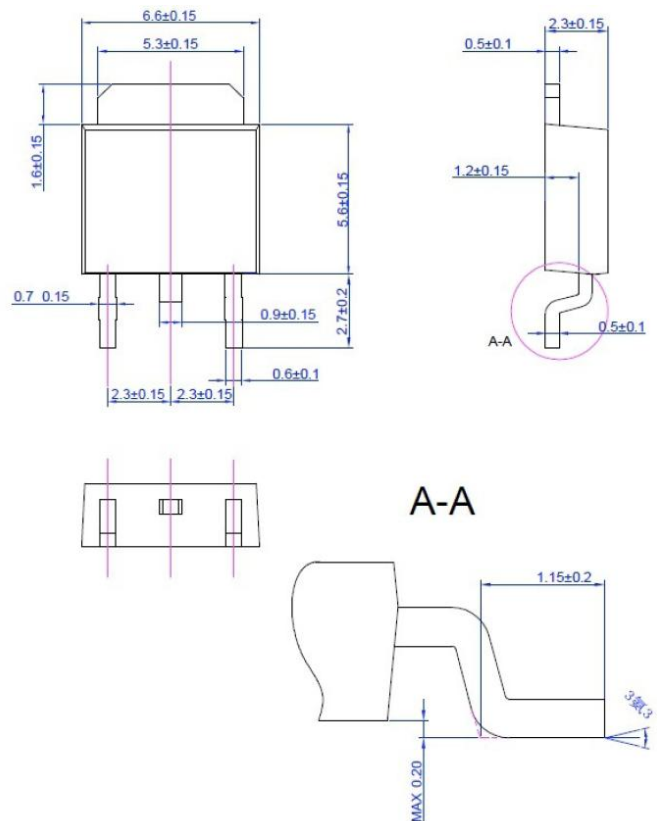
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Package Dimensions

TO-251



TO-252



Notes: Specifications are subject to change without notice.

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