Kingtronics®

KT8N80

N-Channel Power MOSFET

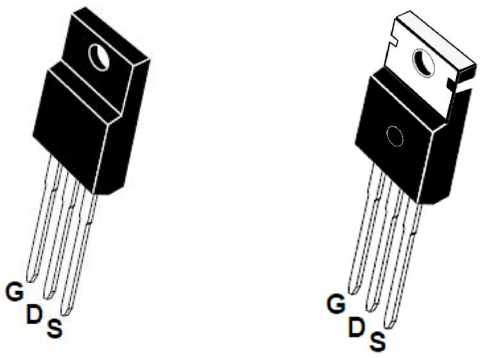
FEATURES

High voltage: BV_{DSS}=800V
Low gate charge: Q_g=40nC (Typ.)
Low drain-source On resistance: $R_{DS(on)}$=1.8Ω(Max.)
100% avalanche tested
RoHS compliant device and available in halogen free device

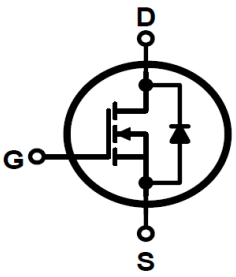
PRODUCT SUMMARY

V_{DSS}	800	V
I_D	8.0	A
P_D(T_C=25℃)	60	W
$R_{DS(ON)}$	1.8	Ω

TO-220F **TO-220**



Schematic Diagram （N-Channel）



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

T_C = 25℃ unless otherwise specified

Parameter	Symbol		Rating	Units
Drain-source Voltage	V_{DSS}		800	V
Gate-source Voltage	V_{GSS}		±30	V
Drain Current(DC) *	I_D	Tc=25℃	7	A
		Tc=100℃	5.1	A
Drain Current (Pulsed) *	I_{DM}		28	A
Single Pulsed Avalanche Energy(Note 2)	E_{AS}		300	mJ
Power dissipation	P_D		60	V/ns
Junction Temperature	T_J		150	℃
Storage Temperature Range	T_{stg}		–55 ~ +150	℃

Note 2: L=30mH, I_{AS}=4.5A, V_{DD} =50V, R_G=25Ω, Starting T_J=25℃

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RATING AND CHARACTERTIC CURVES

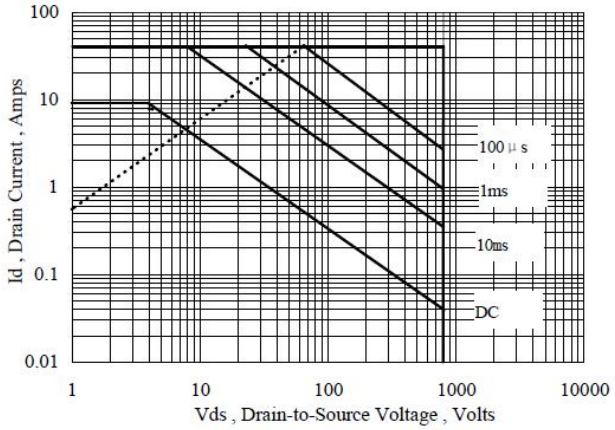

Figure 1 Maximun Forward Bias Safe Operating Area

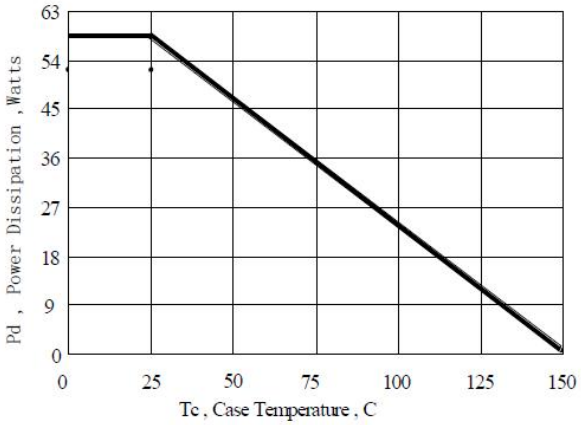

Figure 2 Maximun Power Dissipation vs Case Temperature

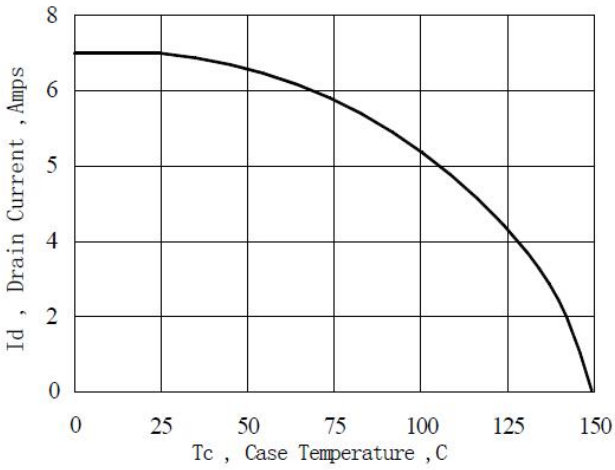

Figure 3 Maximum Continuous Drain Current vs Case Temperature

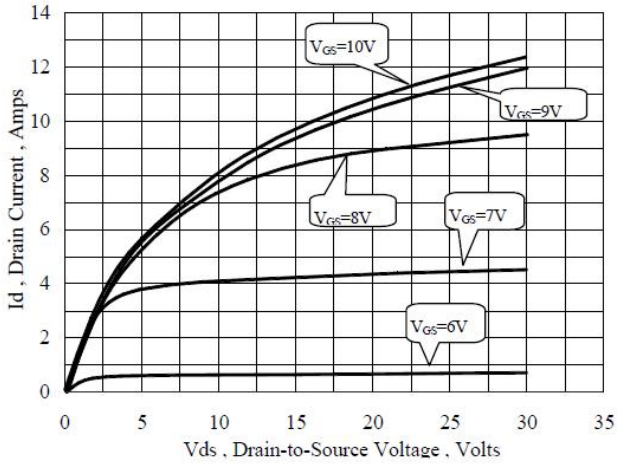

Figure 4 Typical Output Characteristics

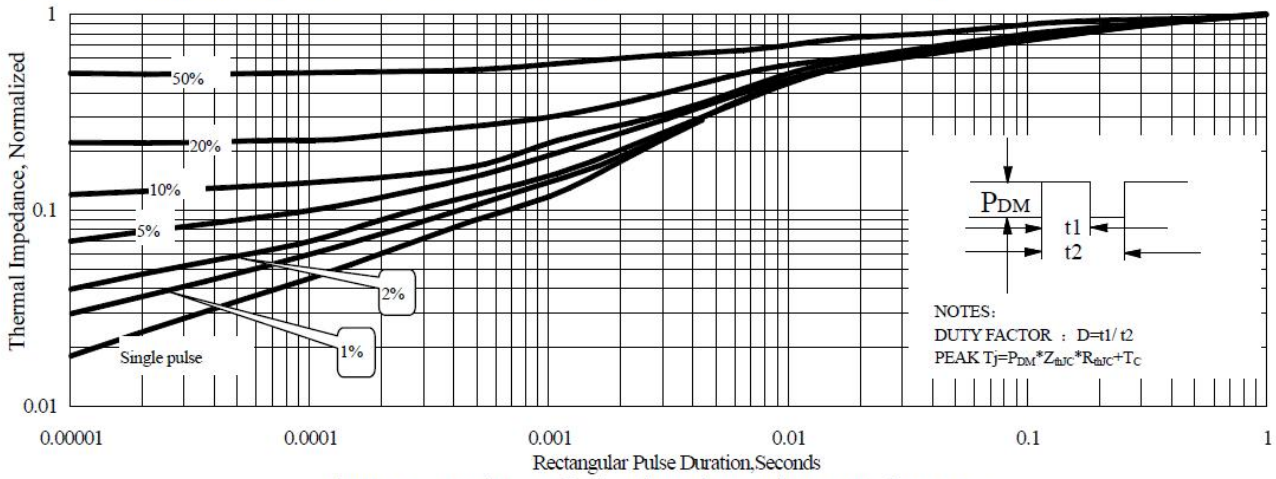

Figure 5 Maximum Effective Thermal Impendance , Junction to Case

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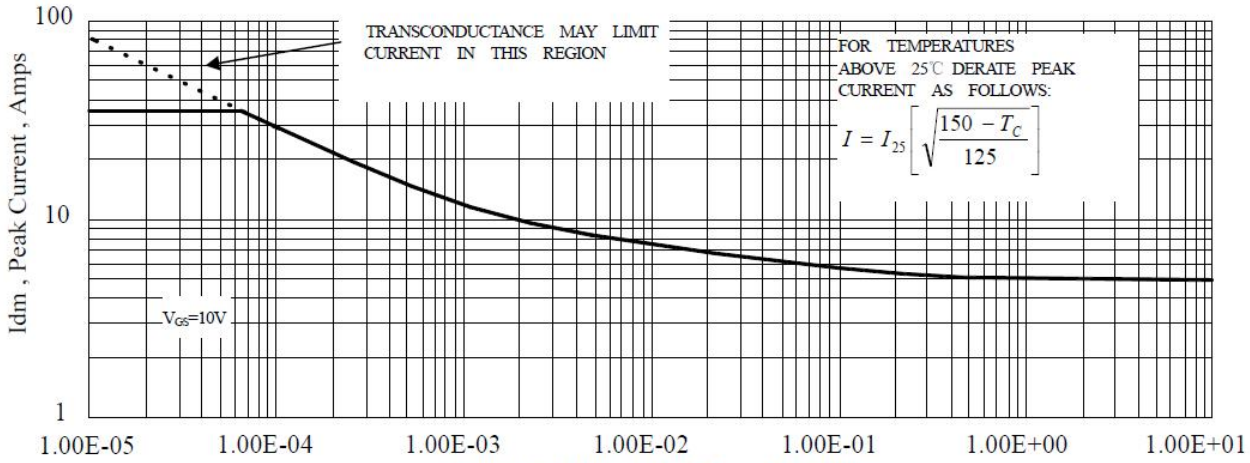

Figure 6 Maximum Peak Current Capability

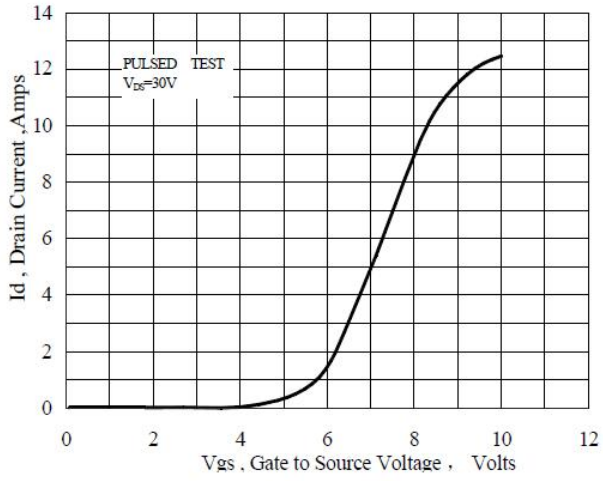

Figure 7 Typical Transfer Characteristics

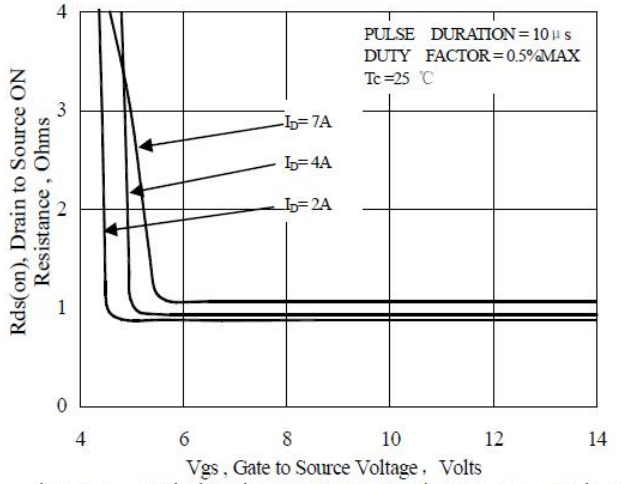

Figure 8 Typical Drain to Source ON Resistance vs Gate Voltage and Drain Current

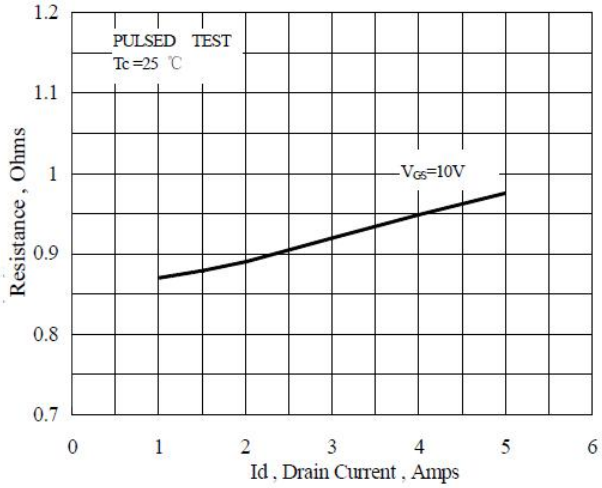

Figure 9 Typical Drain to Source ON Resistance vs Drain Current

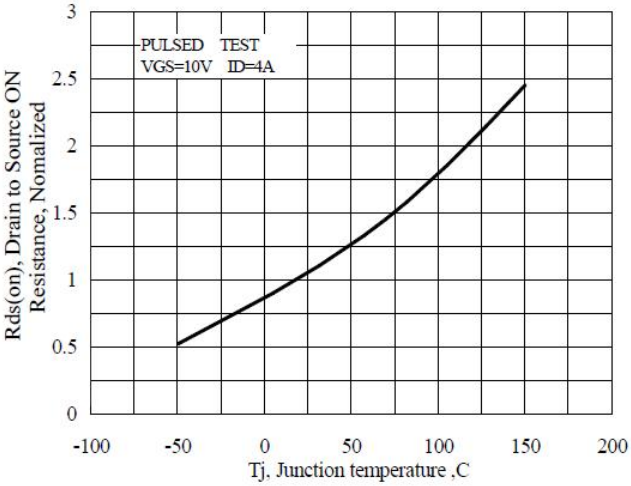

Figure 10 Typical Drian to Source on Resistance vs Junction Temperature

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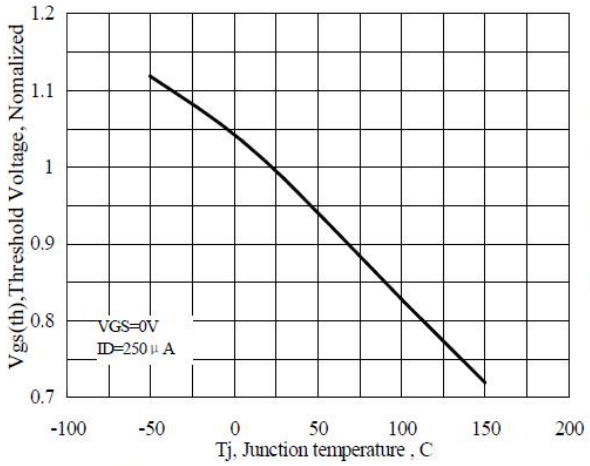

Figure 11 Typical Theshold Voltage vs Junction Temperature

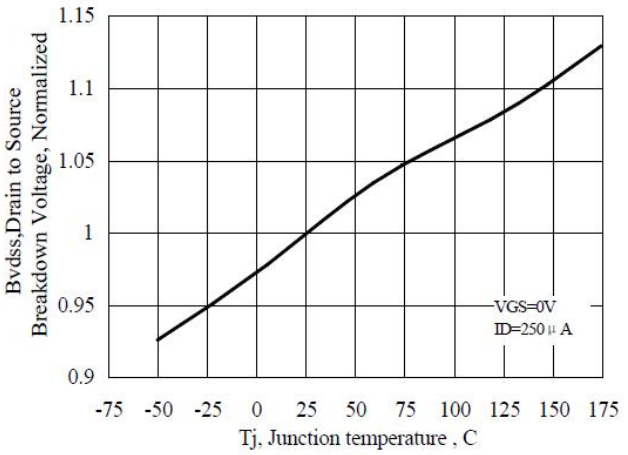

Figure 12 Typical Breakdown Voltage vs Junction Temperature

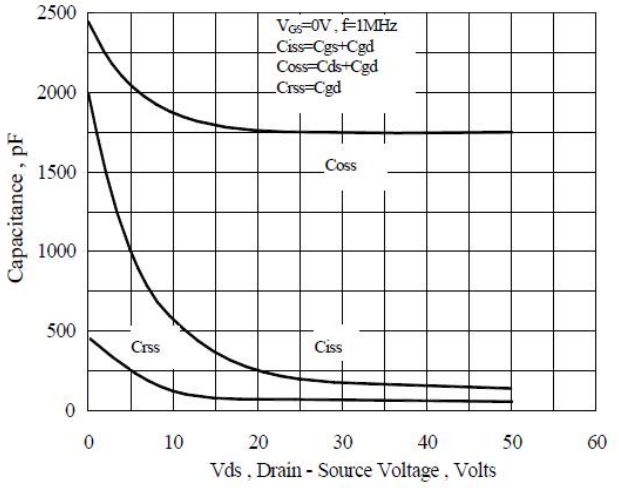

Figure 13 Typical Capacitance vs Drain to Source Voltage

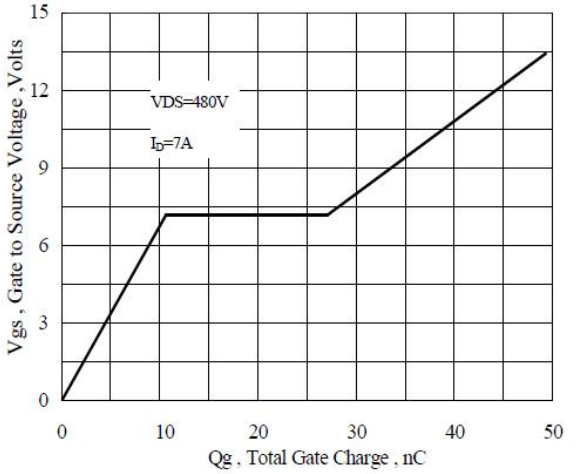

Figure 14 Typical Gate Charge vs Gate to Source Voltage

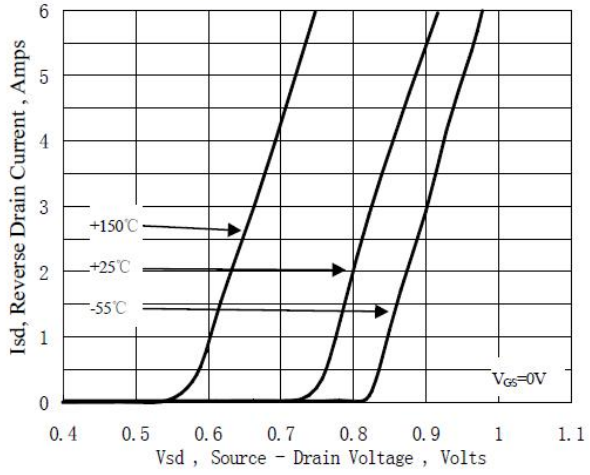

Figure 15 Typical Body Diode Transfer Characteristics

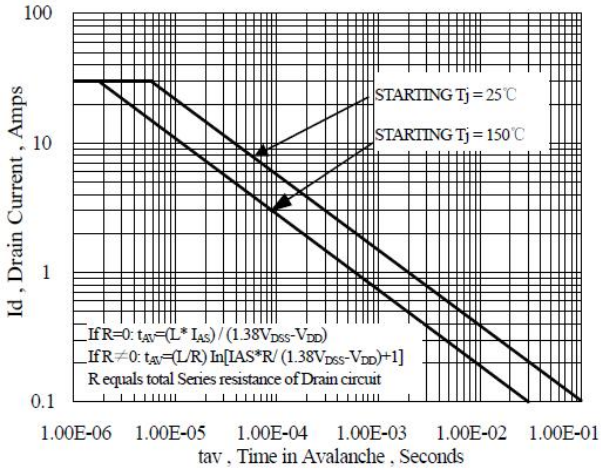

Figure 16 Unclamped Inductive Switching Capability

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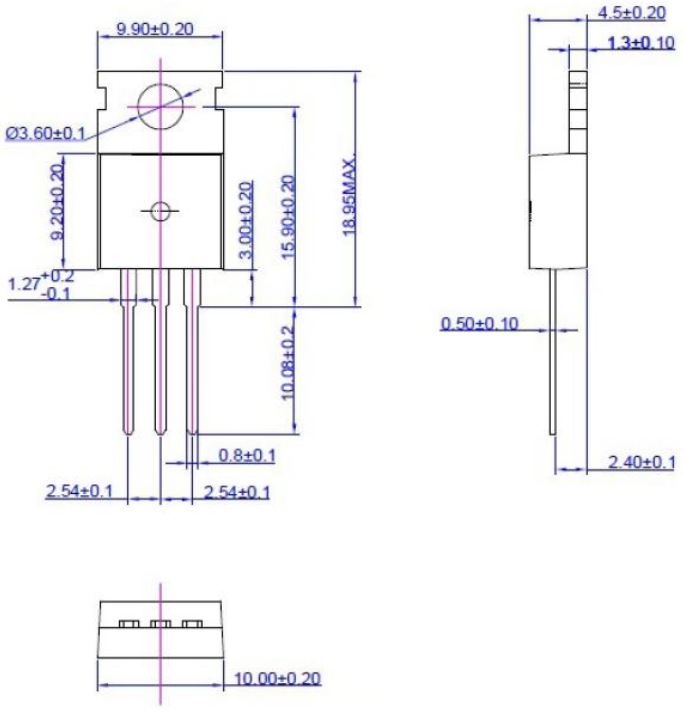
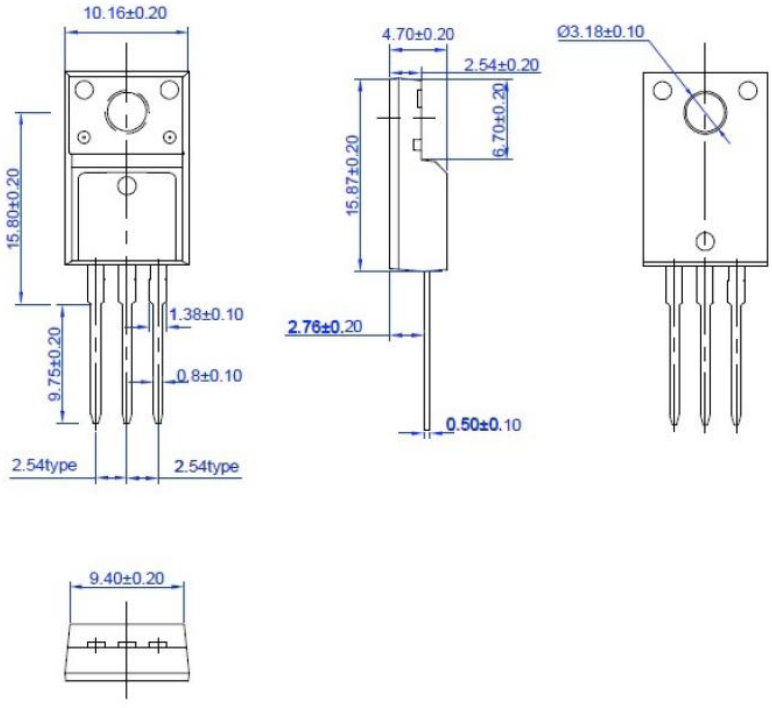
Package Dimensions

TO-220



TO-220F



Notes: Specifications are subject to change without notice.