

# Kingtronics®

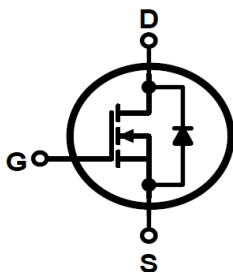
## KT10N80

### N-Channel Power MOSFET

## FEATURES

10A, 800V,  $R_{DS(on)(typ.)}=0.92\Omega @ V_{GS}=10V$   
 Low gate charge  
 Low Crss  
 Fast switching  
 Improved dv/dt capability

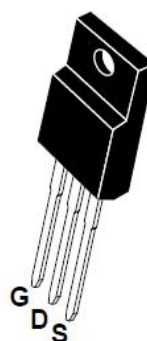
## Schematic Diagram (N-Channel)



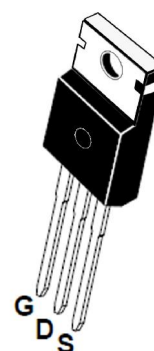
## PRODUCT SUMMARY

$V_{DSS}$	800	V
$I_D$	10.0	A
$P_D(T_C=25^\circ C)$	62	W
$R_{DS(ON)}$	0.92	$\Omega$

### TO-220F



### TO-220



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

$T_C = 25^\circ C$  unless otherwise specified

Parameter	Symbol	Rating	Units
Drain-source Voltage	$V_{DS}$	800	V
Gate-source Voltage	$V_{GS}$	$\pm 30$	V
Drain Current	$I_D$	$T_C=25^\circ C$	10.0
		$T_C=100^\circ C$	6.32
Drain Current Pulsed	$I_{DM}$	40	A
Power Dissipation( $T_C=25^\circ C$ ) -Derate above $25^\circ C$	$P_D$	62	W
		0.50	W/ $^\circ C$
Single Pulsed Avalanche Energy(Note 1)	$E_{AS}$	938	mJ
Reverse Diode dv/dt (Note 2)	dv/dt	4.5	V/ns
MOSFET dv/dt Ruggedness (Note 3)	dv/dt	50	V/ns
Operation Junction Temperature Range	$T_J$	$-55 \sim +150$	$^\circ C$
Storage Temperature Range	$T_{stg}$	$-55 \sim +150$	$^\circ C$

Notes:

- $L=30mH$ ,  $I_{AS}=7.50A$ ,  $V_{DD}=100V$ ,  $R_G=25\Omega$ , starting temperature  $T_J=25^\circ C$ ;
- $V_{DS}=0\sim 400V$ ,  $I_{SD}\leq 10A$ ,  $T_J=25^\circ C$ ;
- $V_{DS}=0\sim 480V$ ;

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### RATING AND CHARACTERISTIC CURVES

Figure 1. On-Region Characteristics

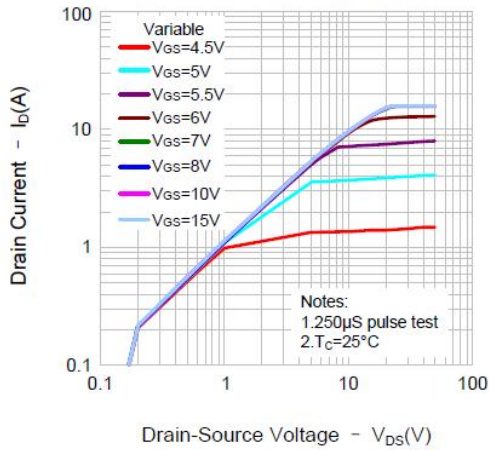


Figure 2. Transfer Characteristics

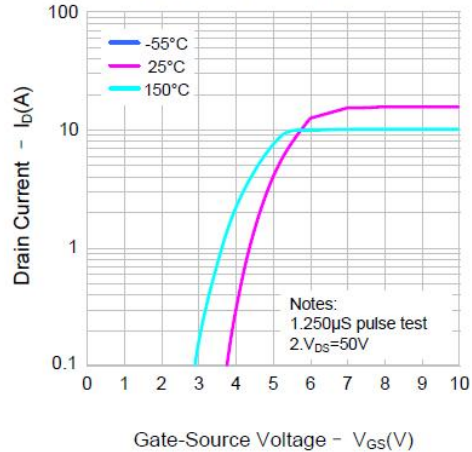


Figure 3. On-Resistance Variation vs. Drain Current and Gate Voltage

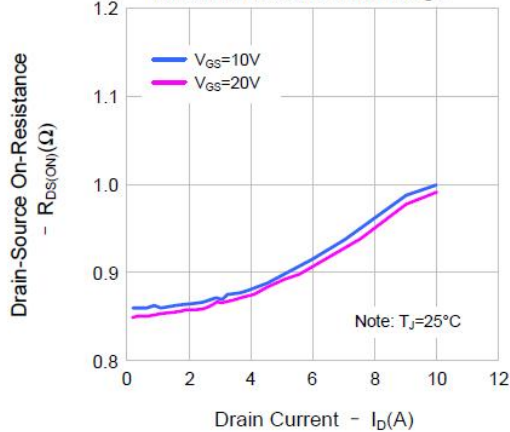


Figure 4. Body Diode Forward Voltage Variation vs. Source Current and Temperature

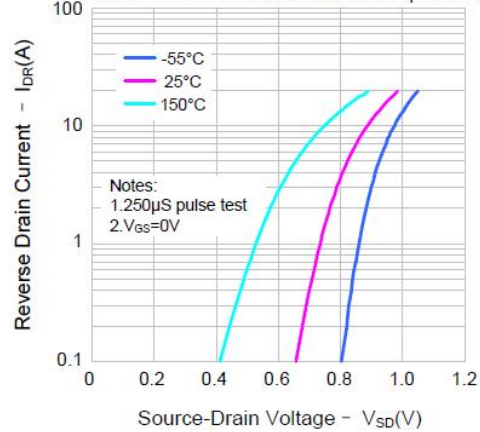


Figure 5. Capacitance Characteristics

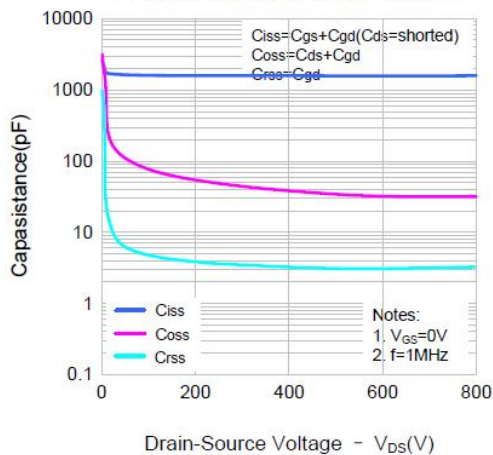
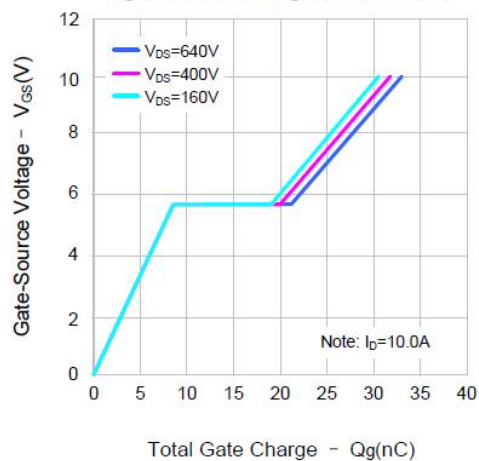


Figure 6. Gate Charge Characteristics



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Figure 7. Breakdown Voltage Variation vs. Temperature

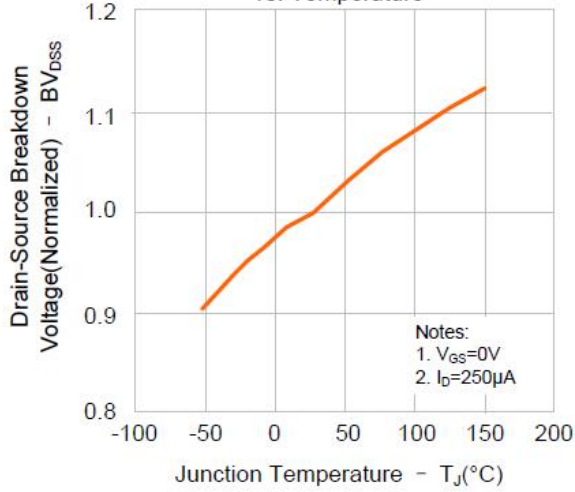


Figure 8. On-resistance Variation vs. Temperature

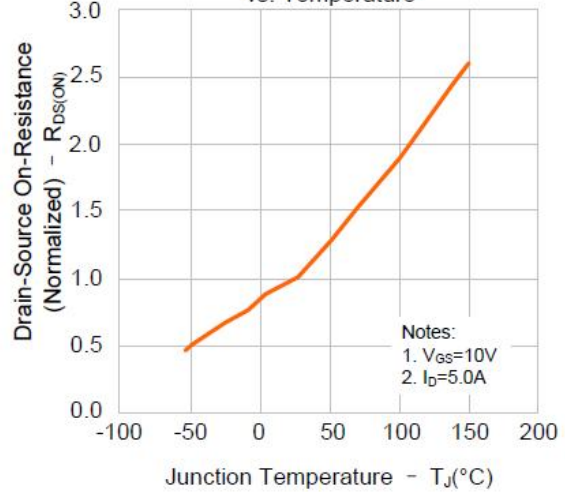


Figure 9 . Max. Safe Operating Area

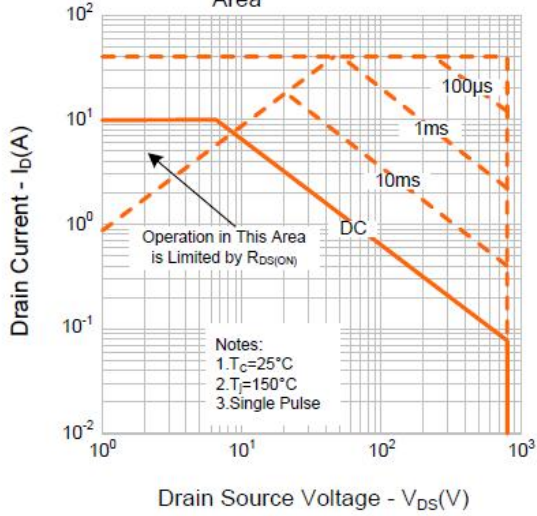
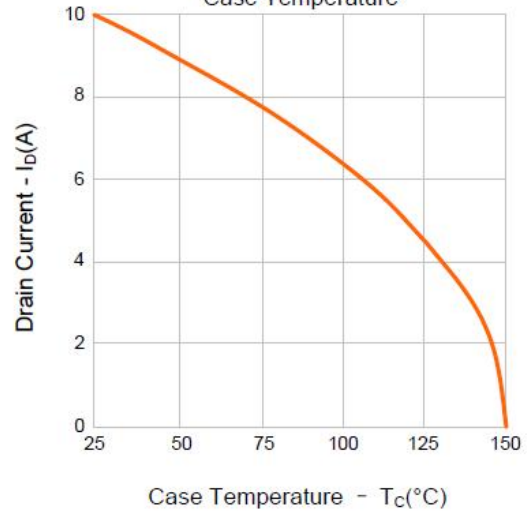


Figure 10. Maximum Drain Current vs. Case Temperature



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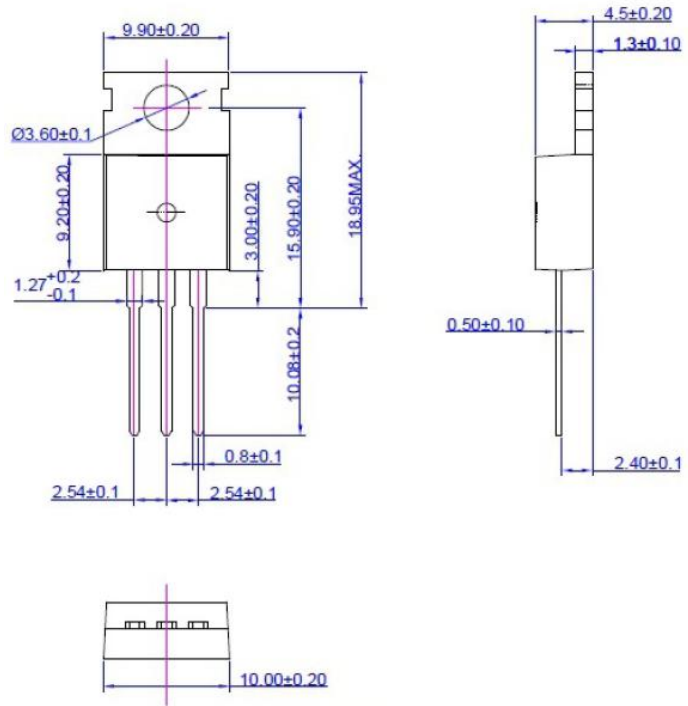
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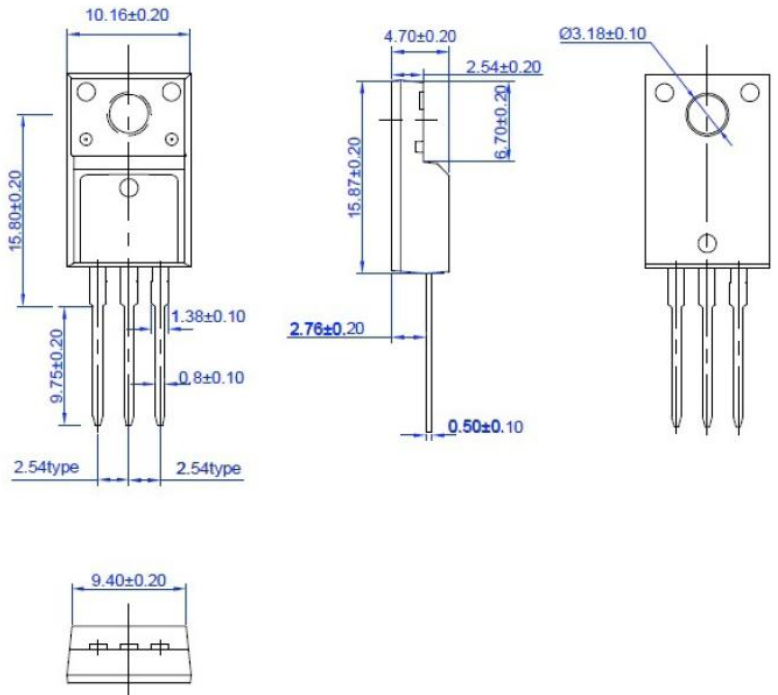
### N-Channel Power MOSFET

## Package Dimensions

### TO-220



### TO-220F



Notes: Specifications are subject to change without notice.

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