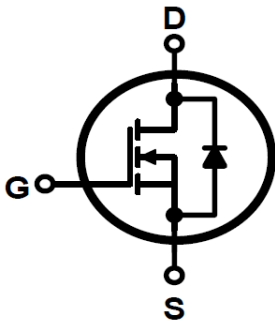


**Kingtronics**®**KT5N80**

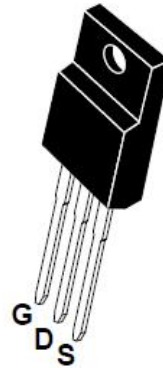
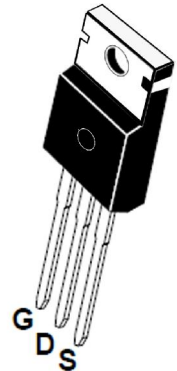
N-Channel Power MOSFET

**FEATURES**

Low Intrinsic Capacitances  
 Excellent Switching Characteristics  
 Extended Safe Operating Area  
 Unrivalled Gate Charge : $Q_g=31\text{nC}$  (Typ.)  
 $BV_{DSS}=800\text{V}, I_D=5\text{A}$   
 $R_{DS(on)} : 2.4 \Omega(\text{Max}) @V_G=10\text{V}$   
 100% Avalanche Tested

**Schematic Diagram (N-Channel)****PRODUCT SUMMARY**

$V_{DSS}$	800	V
$I_D$	5.0	A
$P_D(T_C=25^\circ\text{C})$	47	W
$R_{DS(ON)Max}$	2.4	$\Omega$

**TO-220F****TO-220****MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS** $T_C = 25^\circ\text{C}$  unless otherwise specified

Symbol	Parameter	Rating	Units
$V_{DSS}$	Drain-to-Source Voltage	800	V
$I_D$	Continuous Drain Current $T_j = 25^\circ\text{C}$	5.0	A
	Continuous Drain Current $T_j = 100^\circ\text{C}$	3.8	A
$V_{GS}$	Gate-to-Source Voltage	$\pm 30$	V
$E_{AS}$	Single Pulse Avalanche Energy (note1)	590	mJ
$I_{AR}$	Avalanche Current (note2)	5.0	A
$P_D$	Power Dissipation ( $T_j=25^\circ\text{C}$ )	47	W
$T_J, T_{stg}$	Junction Temperature(Max) and Storage Temperature	150, - 55 to 150	$^\circ\text{C}$
$T_L$	Maximum lead temperature for soldering purpose, 1/8" from case for 5 seconds	300	$^\circ\text{C}$

Notes : 1,  $L=11.1\text{mH}$ ,  $I_{AS}=5\text{A}$ ,  $V_{DD}=50\text{V}$ ,  $R_G=25\Omega$ , Starting  $T_j = 25^\circ\text{C}$ 

2, Repetitive Rating : Pulse width limited by maximum junction temperature

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# Kingtronics®

# KT5N80

## N-Channel Power MOSFET

### RATING AND CHARACTERISTIC CURVES

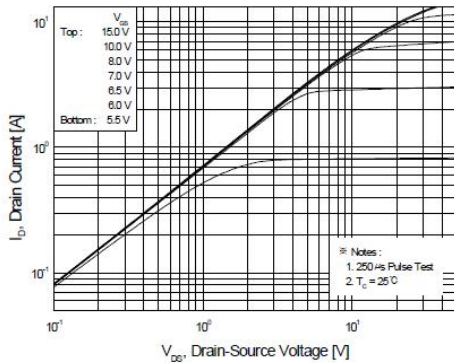


Figure 1. On-Region Characteristics

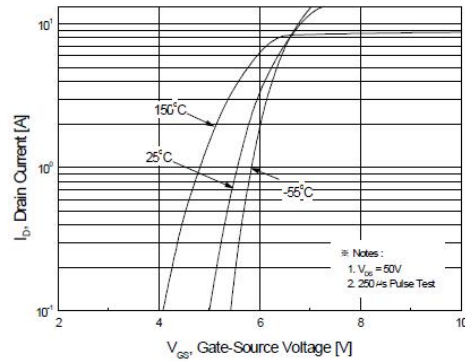


Figure 2. Transfer Characteristics

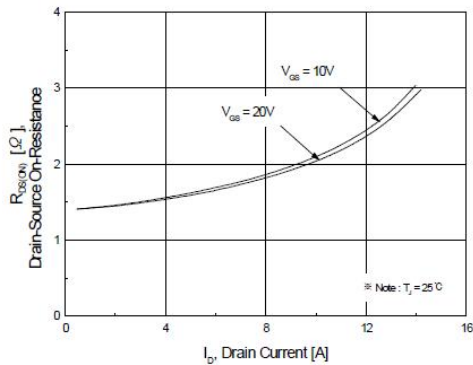


Figure 3. On-Resistance Variation vs Drain Current and Gate Voltage

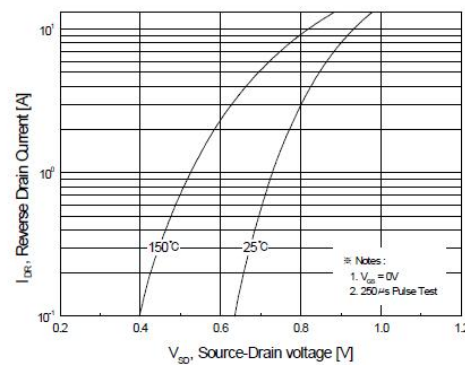


Figure 4. Body Diode Forward Voltage Variation with Source Current and Temperature

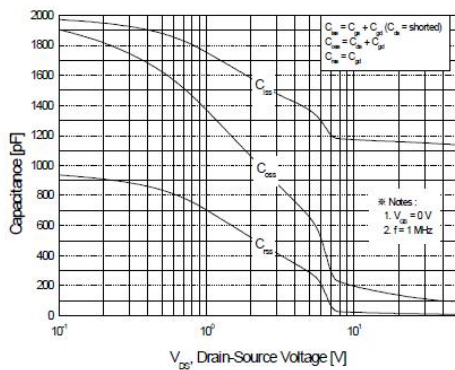


Figure 5. Capacitance Characteristics

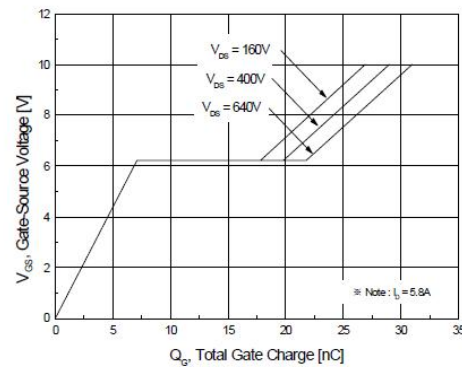


Figure 6. Gate Charge Characteristics

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## KT5N80

### N-Channel Power MOSFET

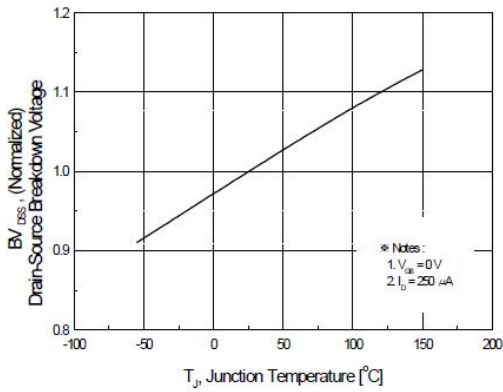


Figure 7. Breakdown Voltage Variation vs Temperature

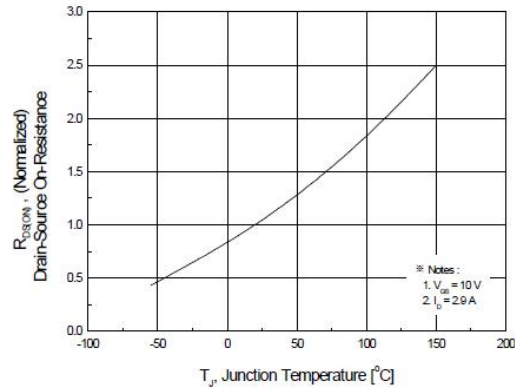


Figure 8. On-Resistance Variation vs Temperature

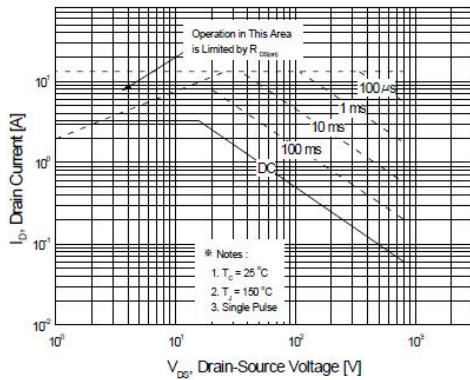


Figure 9. Maximum Safe Operating Area

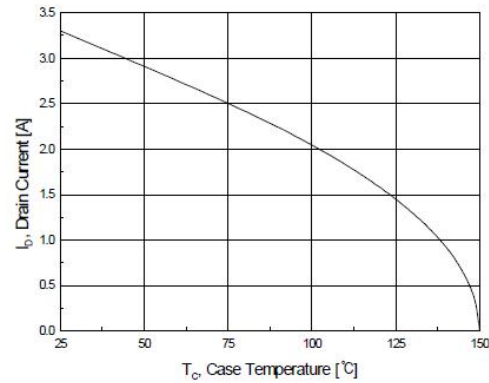


Figure 10. Maximum Drain Current vs Case Temperature

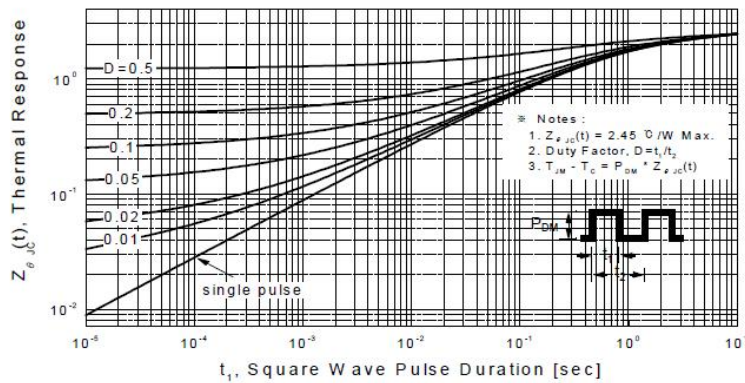


Figure 11. Transient Thermal Response Curve

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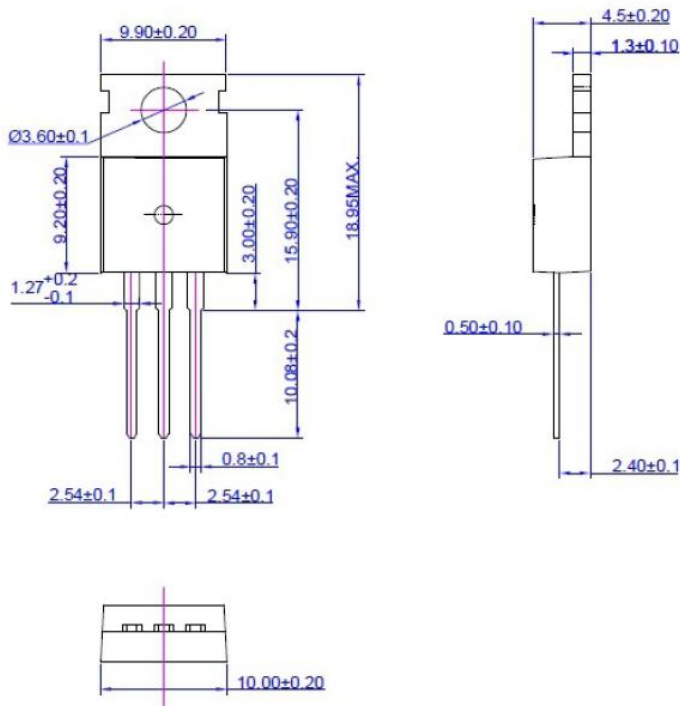
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## KT5N80

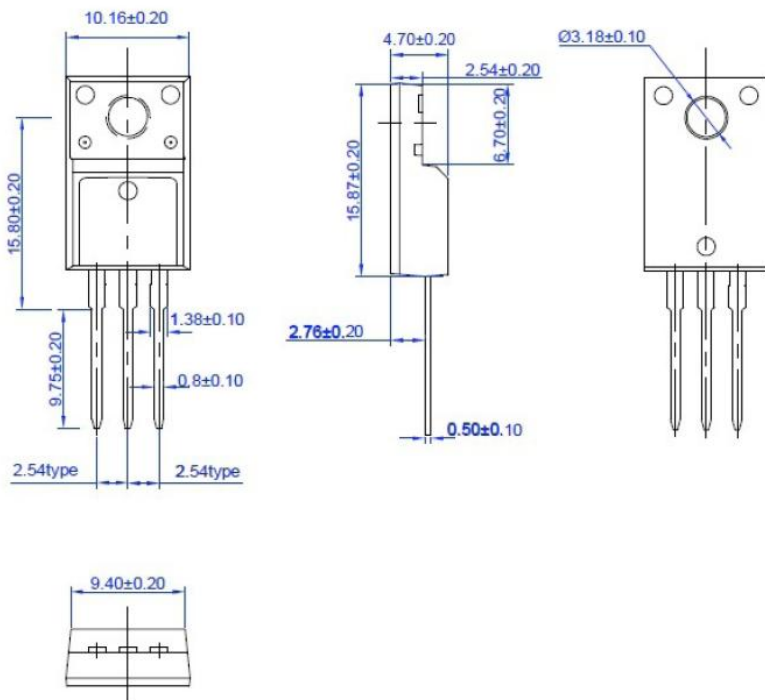
N-Channel Power MOSFET

### Package Dimensions

#### TO-220



#### TO-220F



Notes: Specifications are subject to change without notice.

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