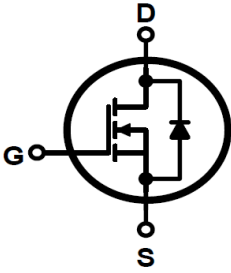


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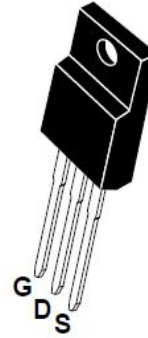
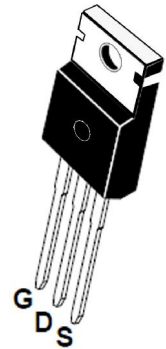
N-Channel Power MOSFET

FEATURES

Low Intrinsic Capacitances
 Excellent Switching Characteristics
 Extended Safe Operating Area
 Unrivalled Gate Charge: $Q_g = 45\text{nC}$ (Typ.)
 $BVDSS = 800\text{V}$, $I_D = 12\text{A}$
 $R_{DS(on)} : 1.0\Omega(\text{Max}) @ V_G = 10\text{V}$
 100% Avalanche Tested

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

V_{DSS}	800	V
I_D	12.0	A
$P_D(T_C = 25^\circ\text{C})$	239	W
$R_{DS(ON)}$	1.0	Ω

TO-220F**TO-220****MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

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

Symbol	Parameter	Rating	Units
V_{DSS}	Drain-to-Source Voltage	800	V
I_D	Drain Current	$T_j = 25^\circ\text{C}$	12
		$T_j = 100^\circ\text{C}$	6.32
$V_{GS(TH)}$ Gate	Threshold Voltage	± 30	V
E_{AS}	Single Pulse Avalanche Energy (note1)	920	mJ
I_{AR}	Avalanche Current (note2)	12	A
P_D	Power Dissipation ($T_j = 25^\circ\text{C}$)	239	W
T_J	Junction Temperature(Max)	150	$^\circ\text{C}$
T_{sig}	Storage Temperature	- 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, $L = 25.0\text{mH}$, $I_{AS} = 11.5\text{A}$, $V_{DD} = 50\text{V}$, $R_G = 25\ \Omega$, Starting $T_j = 25^\circ\text{C}$

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

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RATING AND CHARACTERISTIC CURVES

Figure 1. On-Region Characteristics

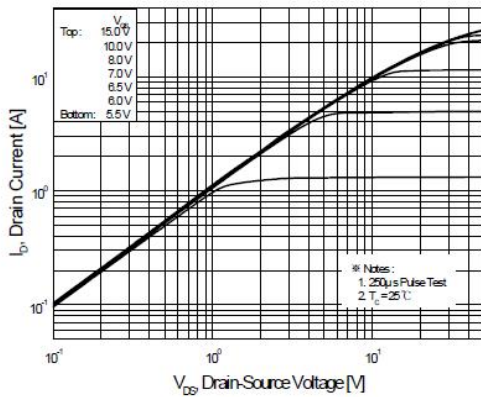


Figure 2. Transfer Characteristics

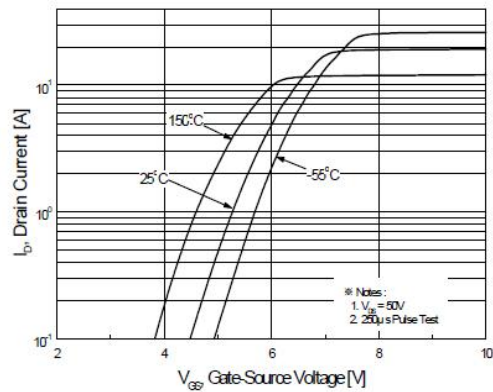


Figure 3. On-Resistance Variation vs. Drain Current and Gate Voltage

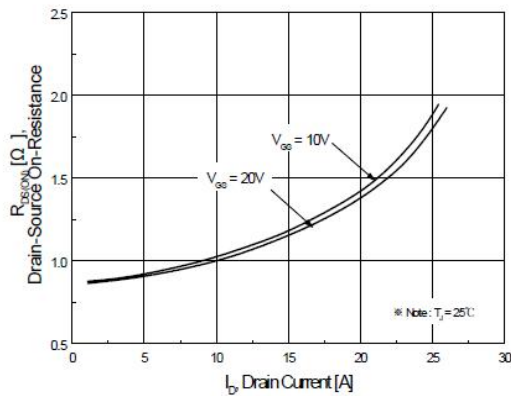


Figure 4. Body Diode Forward Voltage Variation vs. Source Current and Temperature

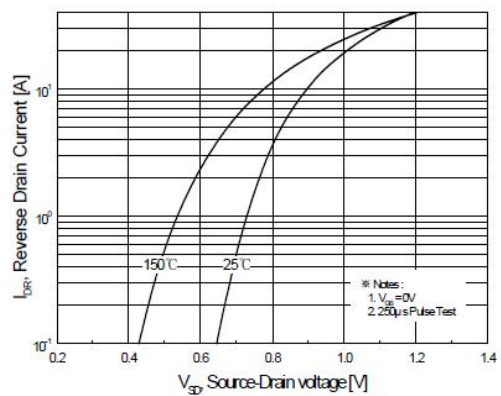


Figure 5. Capacitance Characteristics

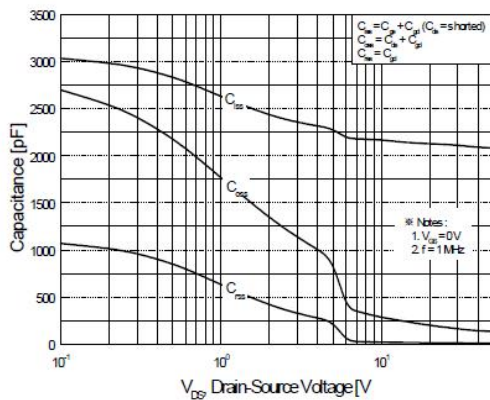
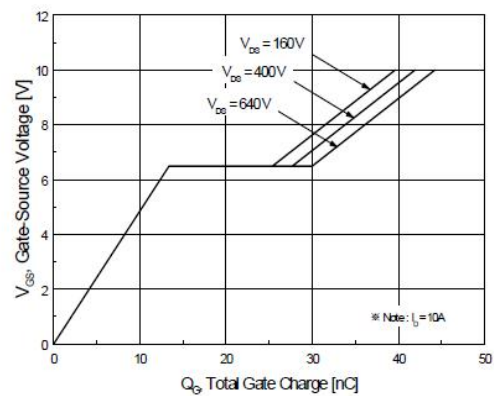


Figure 6. Gate Charge Characteristics



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Figure 7. Breakdown Voltage Variation vs. Temperature

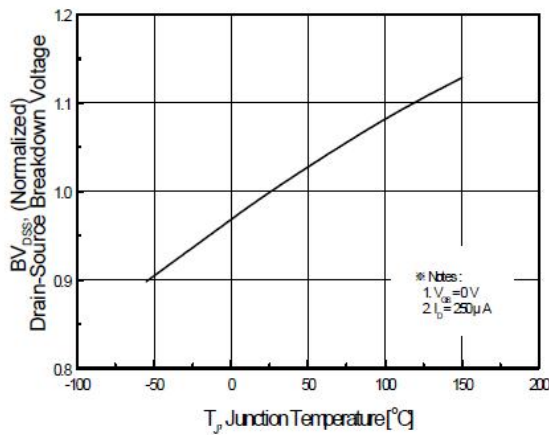


Figure 8. On-Resistance Variation vs. Temperature

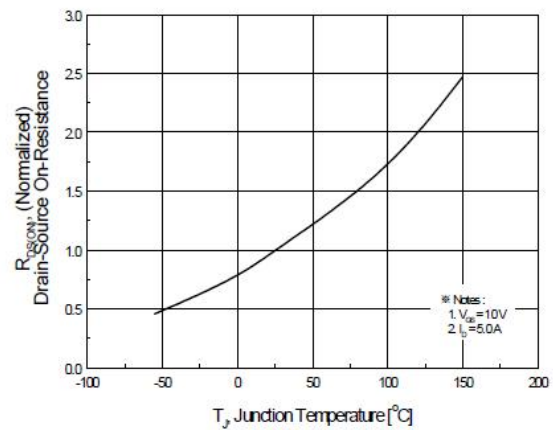


Figure 9. Maximum Safe Operating Area

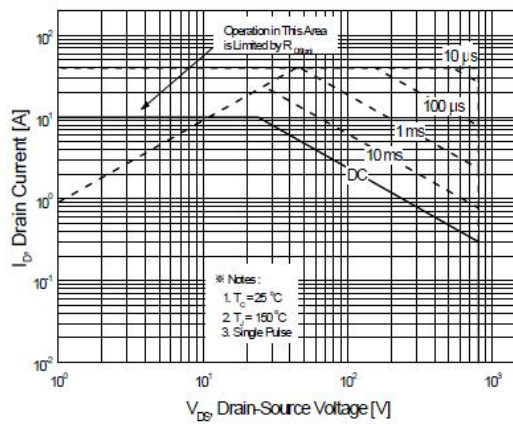


Figure 10. Maximum Drain Current vs. Case Temperature

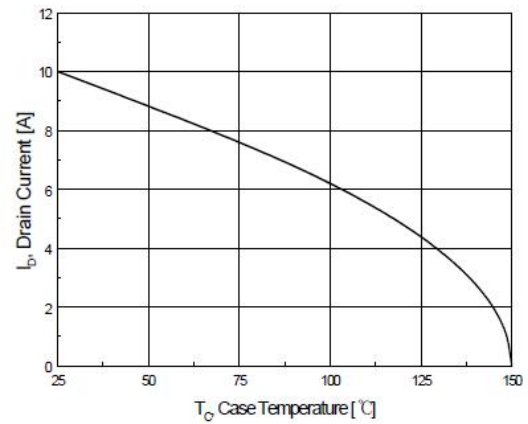
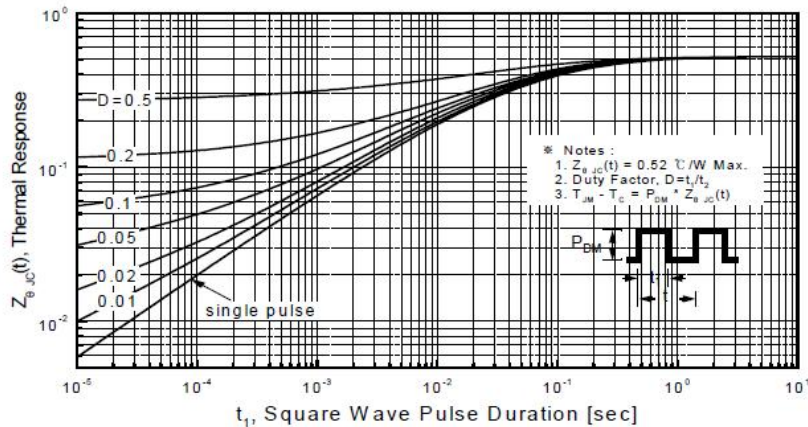


Figure 11. Transient Thermal Response Curve



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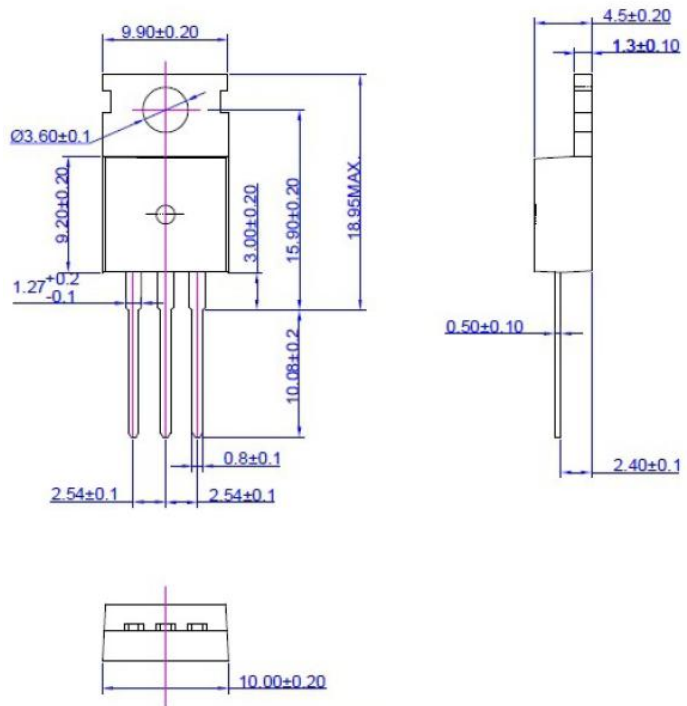
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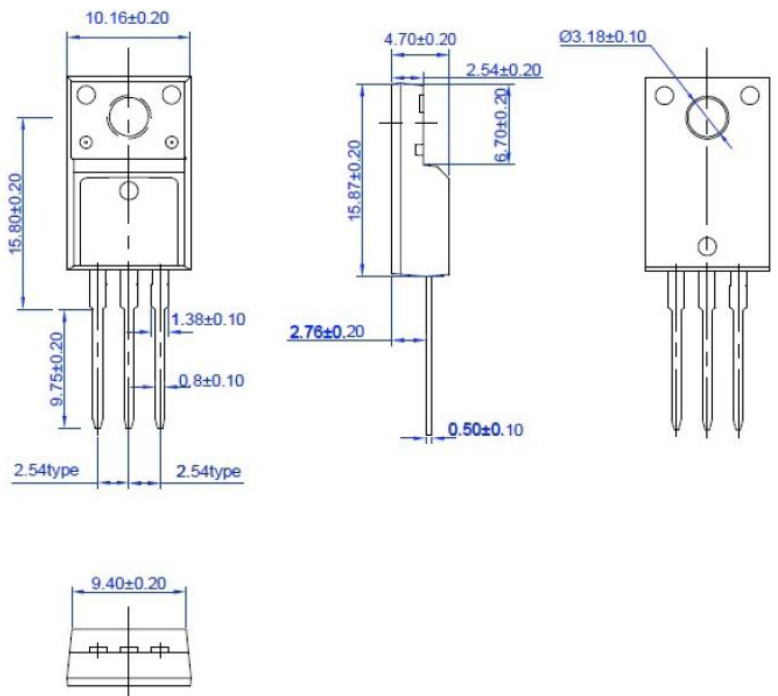
N-Channel Power MOSFET

Package Dimensions

TO-220



TO-220F



Notes: Specifications are subject to change without notice.

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