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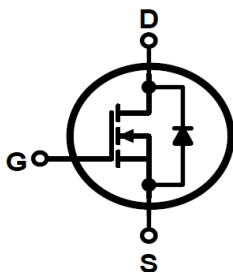
KT20N65

N-Channel Power MOSFET

FEATURES

Fast Switching
 Low ON Resistance($R_{dson} \leq 0.5\Omega$)
 Low Gate Charge (Typical Data:65nC)
 Low Reverse transfer capacitances(Typical: 20pF)
 100% Single Pulse avalanche energy Test

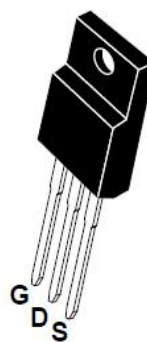
Schematic Diagram (N-Channel)



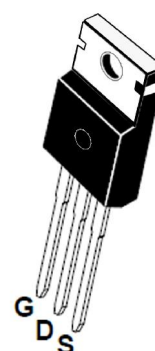
PRODUCT SUMMARY

V_{DSS}	650	V
I_D	20.0	A
$P_D(T_C=25^\circ C)$	85	W
$R_{DS(ON)}$	0.37	Ω

TO-220F



TO-220



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

Symbol	Parameter	Rating	Units
V_{DSS}	Drain-to-Source Voltage	650	V
I_D	Continuous Drain Current	20	A
	Continuous Drain Current $T_C = 100^\circ C$	14	A
I_{DM}^{a1}	Pulsed Drain Current	80	A
V_{GS}	Gate-to-Source Voltage	± 30	V
E_{AS}^{a2}	Single Pulse Avalanche Energy	550	mJ
E_{AR}^{a1}	Avalanche Energy, Repetitive	50	mJ
I_{AR}^{a1}	Avalanche Current	3.2	A
dv/dt^{a3}	Peak Diode Recovery dv/dt	5.0	V/ns
P_D	Power Dissipation	85	W
	Derating Factor above $25^\circ C$	0.68	W/ $^\circ C$
T_J, T_{stg}	Operating Junction and Storage Temperature Range	150, - 55 to 150	$^\circ C$
T_L	Maximum Temperature for Soldering	300	$^\circ C$

^{a1}: Repetitive rating; pulse width limited by maximum junction temperature

^{a2}: $L=10mH, I_D=10.5A, Start T_J=25$

^{a3}: $I_{SD} = 20A, di/dt \leq 200A/us, V_{DD} \leq BV_{DSS}, Start T_J=25$

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RATING AND CHARACTERISTIC CURVES

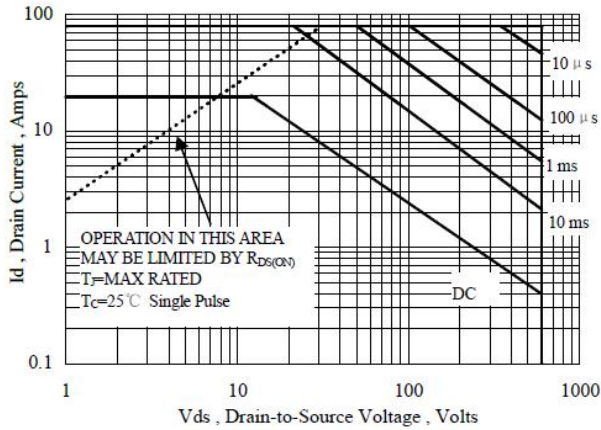


Figure 1 Maximum Forward Bias Safe Operating Area

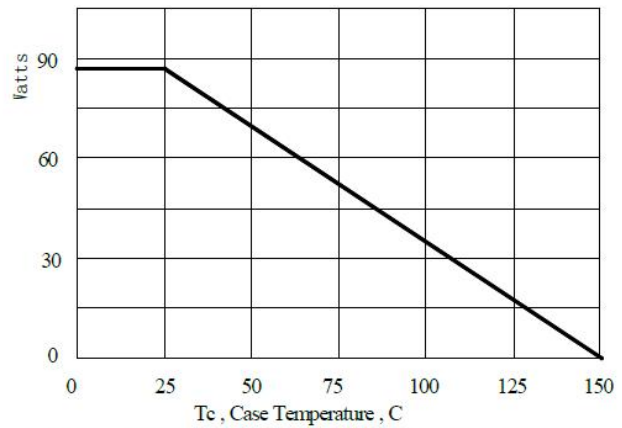


Figure 2 Maximum Power Dissipation vs Case Temperature

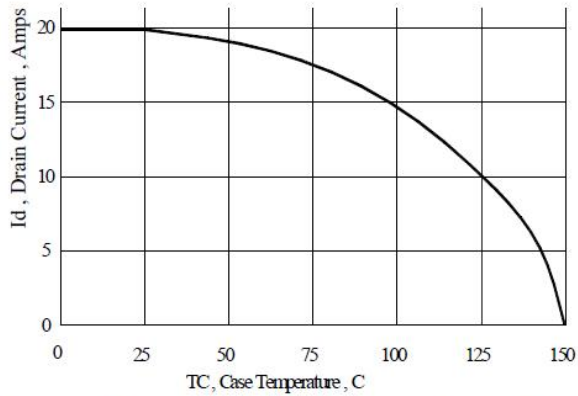


Figure 3 Maximum Continuous Drain Current vs Case Temperature

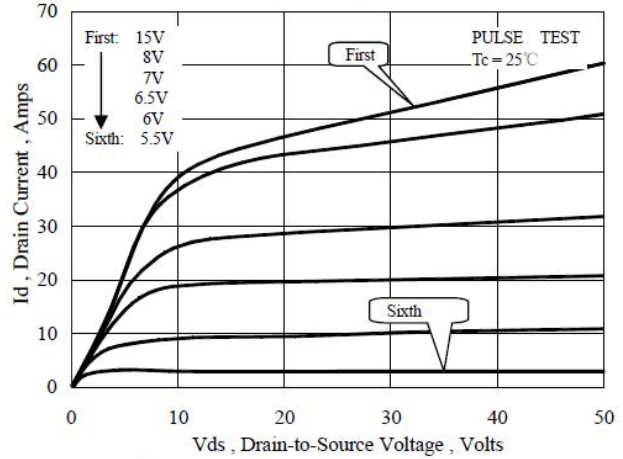


Figure 4 Typical Output Characteristics

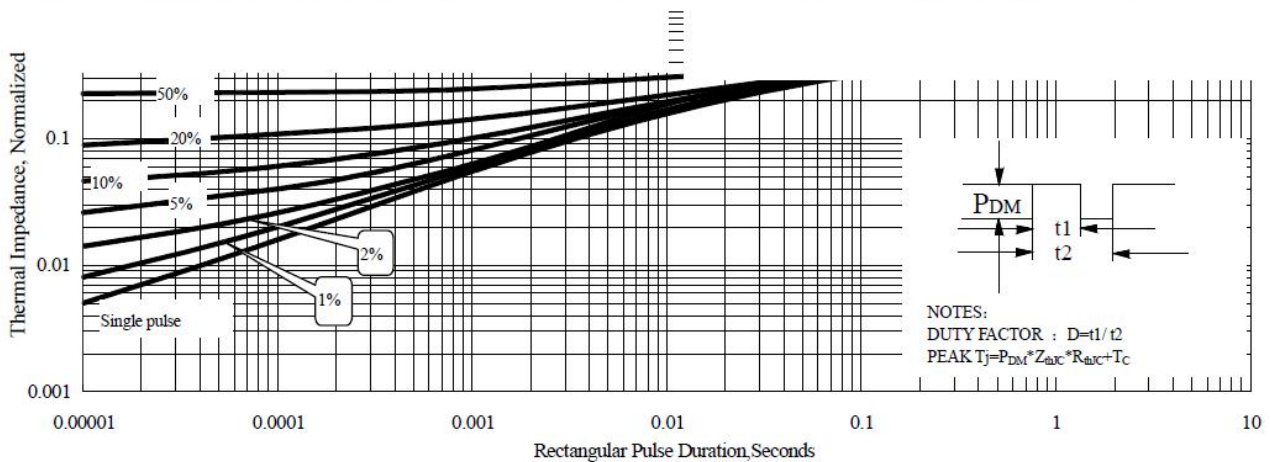


Figure 5 Maximum Effective Thermal Impedance, Junction to Case

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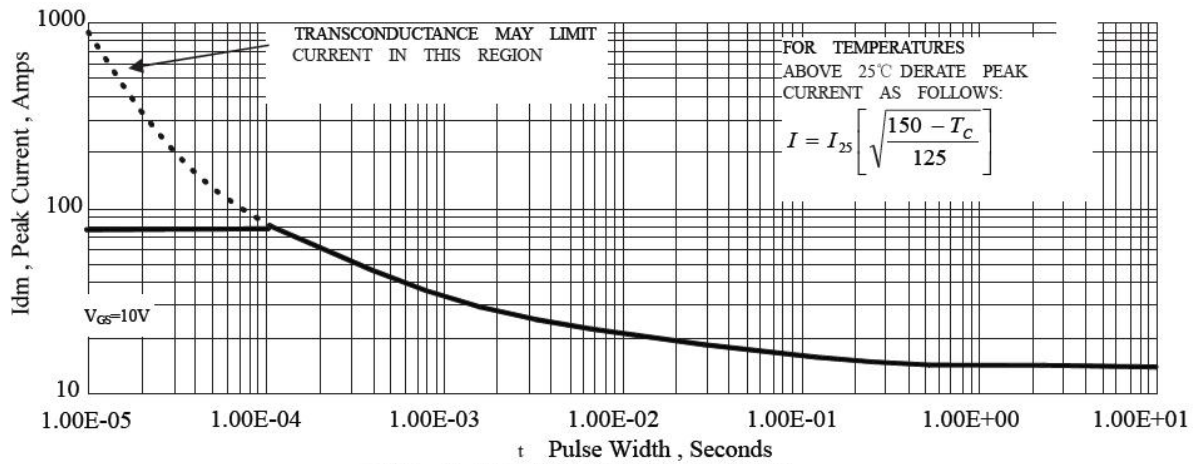


Figure 6 Maximum Peak Current Capability

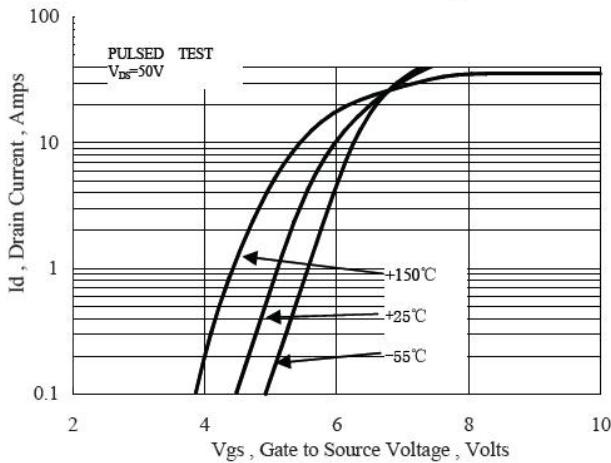


Figure 7 Typical Transfer Characteristics

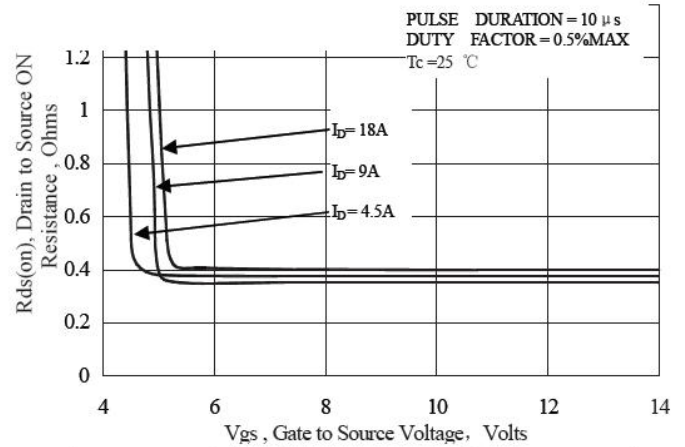


Figure 8 Typical Drain to Source ON Resistance vs Gate Voltage and Drain Current

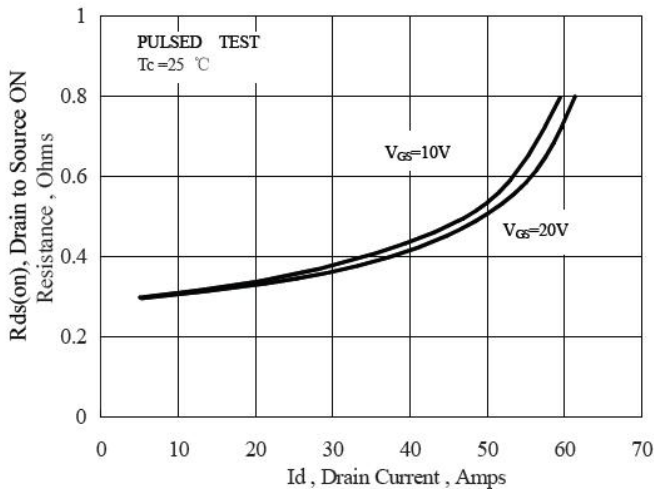


Figure 9 Typical Drain to Source ON Resistance vs Drain Current

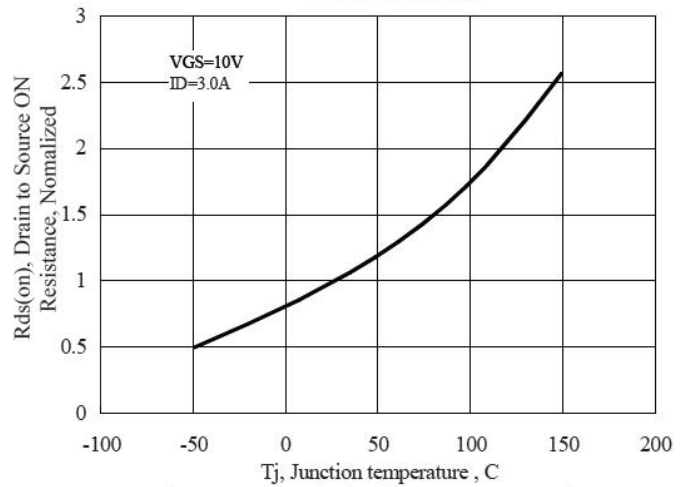


Figure 10 Typical Drain to Source on Resistance vs Junction Temperature

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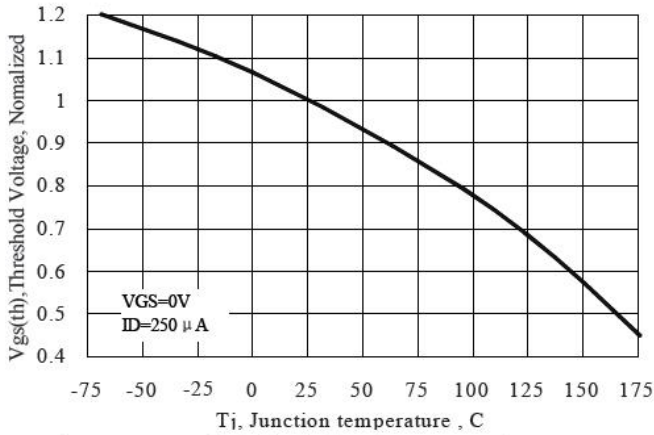


Figure 11 Typical Theshold Voltage vs Junction Temperature

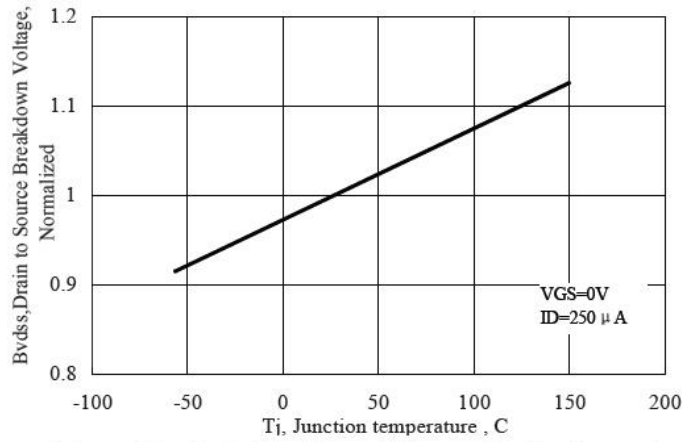


Figure 12 Typical Breakdown Voltage vs Junction Temperature

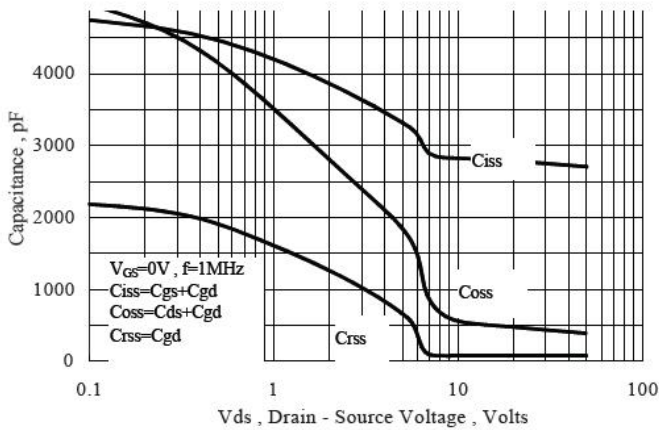


Figure 13 Typical Capacitance vs Drain to Source Voltage

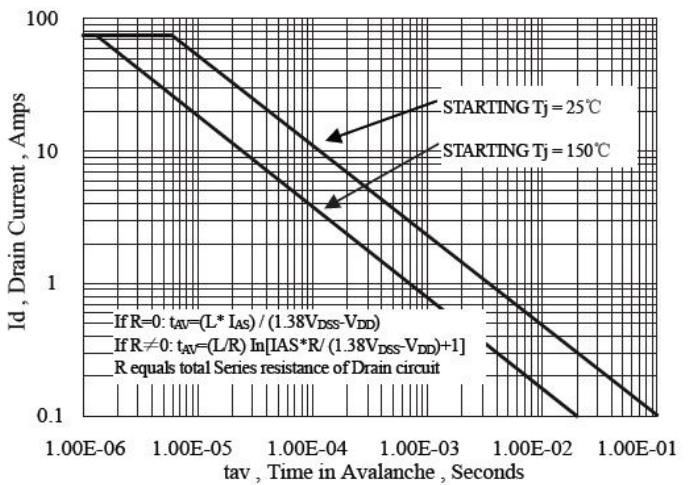
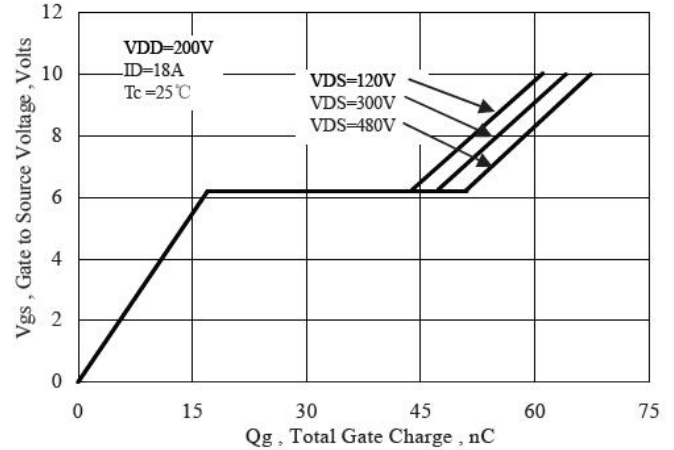


Figure 15 Typical Body Diode Transfer Characteristics

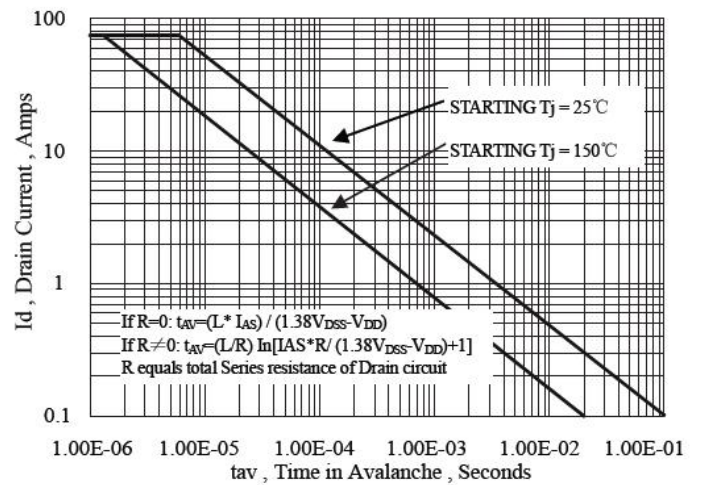


Figure 16 Unclamped Inductive Switching Capability

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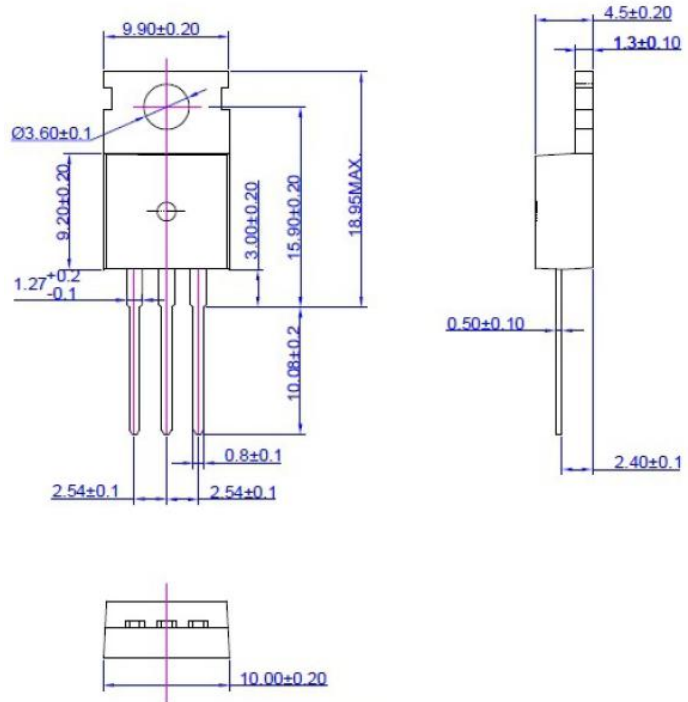
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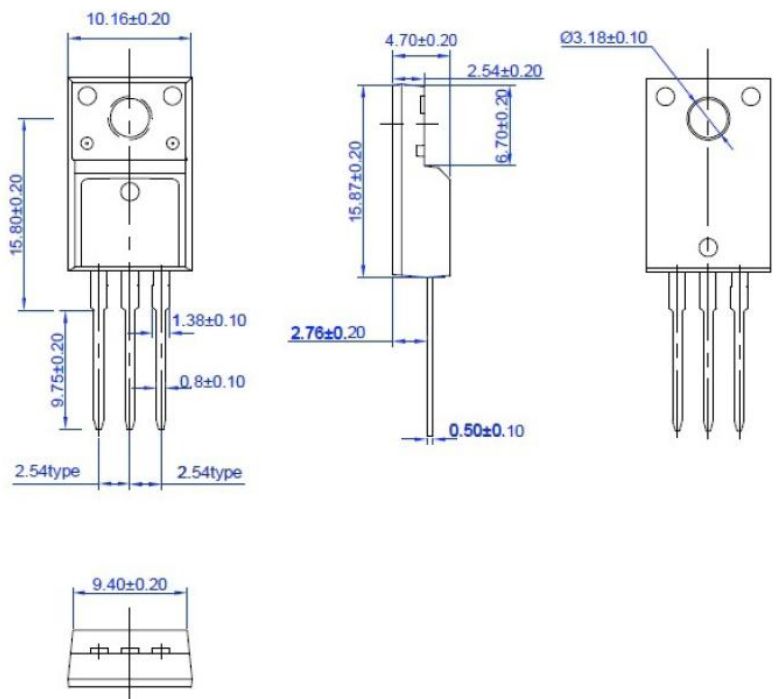
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Package Dimensions

TO-220



TO-220F



Notes: Specifications are subject to change without notice.

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