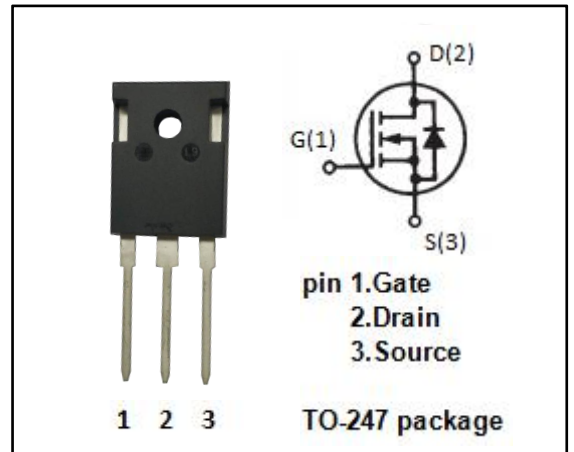


isc N-Channel MOSFET Transistor
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FEATURES

- Drain Current : $I_D = 15A @ T_C = 25^\circ C$
- Drain Source Voltage
: $V_{DSS} = 900V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 350m\Omega (\text{Max}) @ V_{GS} = 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

DESCRIPTION

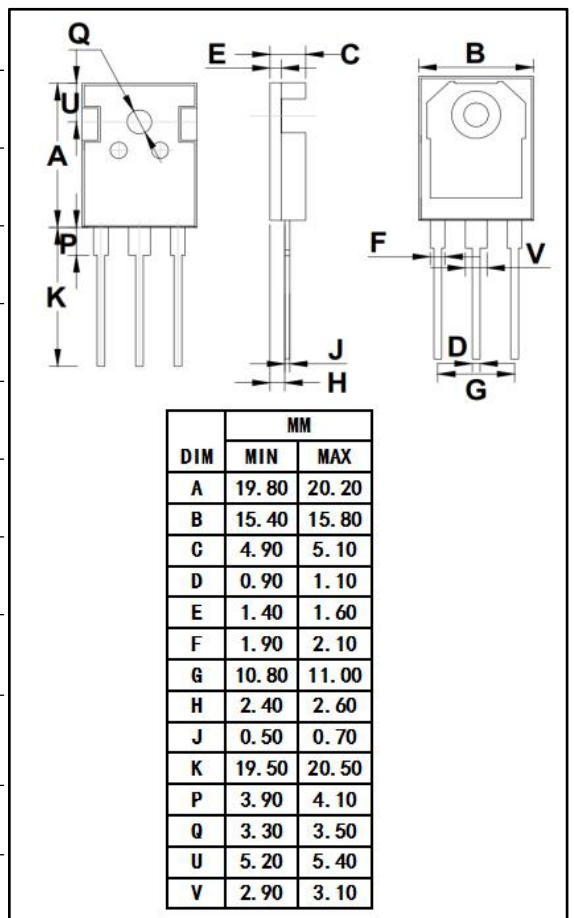
- motor drive, DC-DC converter, power switch and solenoid drive.


ABSOLUTE MAXIMUM RATINGS($T_a = 25^\circ C$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	900	V
V_{GS}	Gate-Source Voltage-Continuous	± 30	V
I_D	Drain Current-Continuous	15	A
I_{DM}	Drain Current-Single Pluse	45	A
P_D	Total Dissipation @ $T_C = 25^\circ C$	240	W
T_J	Max. Operating Junction Temperature	-55~150	$^\circ C$
T_{stg}	Storage Temperature	-55~150	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.52	$^\circ C/W$



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ELECTRICAL CHARACTERISTICS
T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0; I _D = 0.25mA	900	-	-	V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = 10V; I _D = 0.25mA	2.5	-	4.5	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D = 7.5A	-	310	350	mΩ
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±30V; V _{DS} = 0	-	-	±0.1	uA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 900V; V _{GS} = 0	-	-	1.0	uA
V _{SD}	Forward On-Voltage	I _S = 15A; V _{GS} = 0	-	-	1.2	V
C _{iss}	Input Capacitance	V _{GS} = 0V, V _{DS} = 50V, f = 1.0MHz	-	2840	-	pF
C _{oss}	Output Capacitance		-	220	-	
C _{rss}	Reverse Transfer Capacitance		-	16	-	
Q _g	Total Gate Charge	V _{DD} = 720V, I _D = 15A, V _{GS} = 10V	-	62	-	nC
Q _{gs}	Gate-Source Charge		-	15	-	
Q _{gd}	Gate-Drain Charge		-	23	-	
t _{d(on)}	Turn-on Delay Time	V _{DD} = 400V, I _D = 15A, R _G = 25Ω	-	49	-	ns
t _r	Turn-on Rise Time		-	42	-	
t _{d(off)}	Turn-off Delay Time		-	166	-	
t _f	Turn-off Fall Time		-	13	-	

Typical Characteristics $T_J = 25^\circ\text{C}$, unless otherwise noted

Figure 1. Output Characteristics

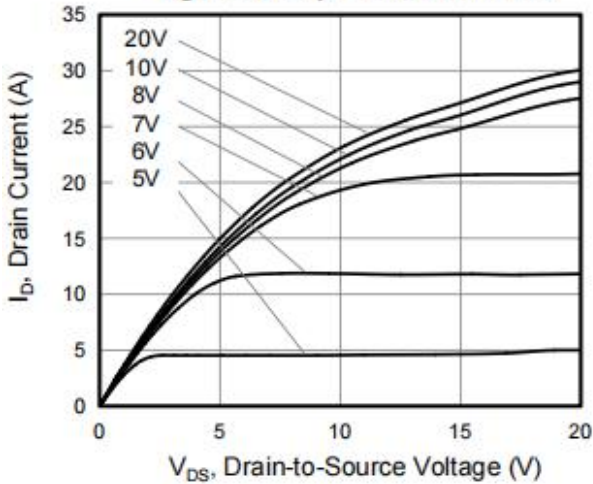


Figure 2. Transfer Characteristics

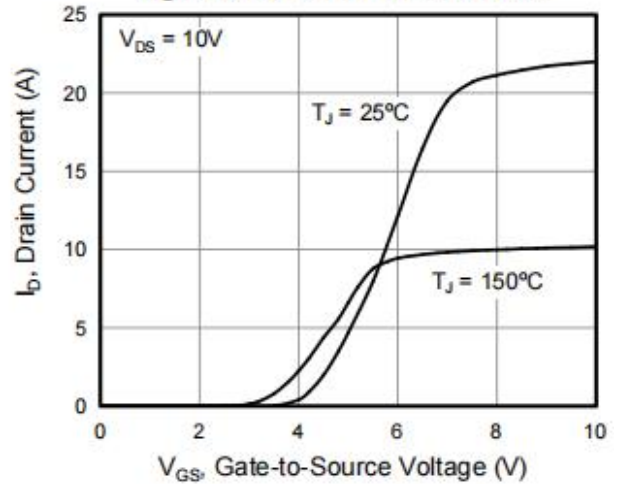


Figure 3. On-Resistance vs. Drain Current

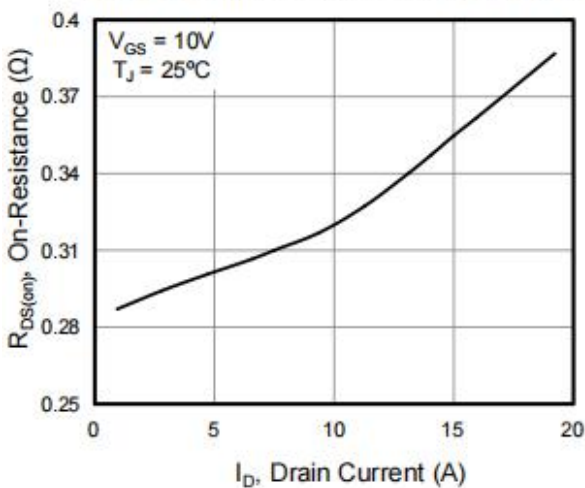


Figure 4. Capacitance

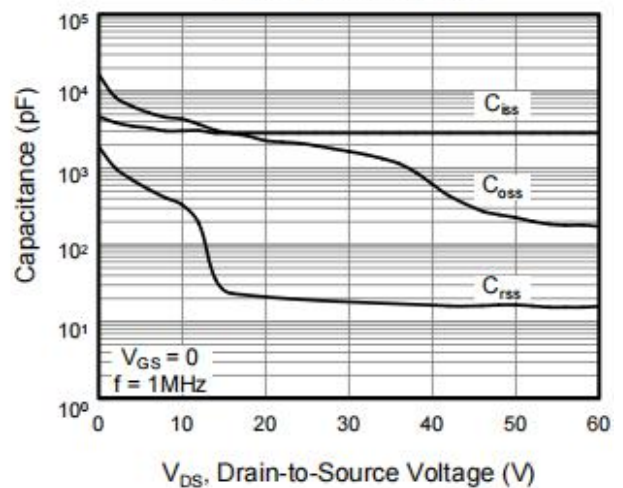


Figure 5. Gate Charge

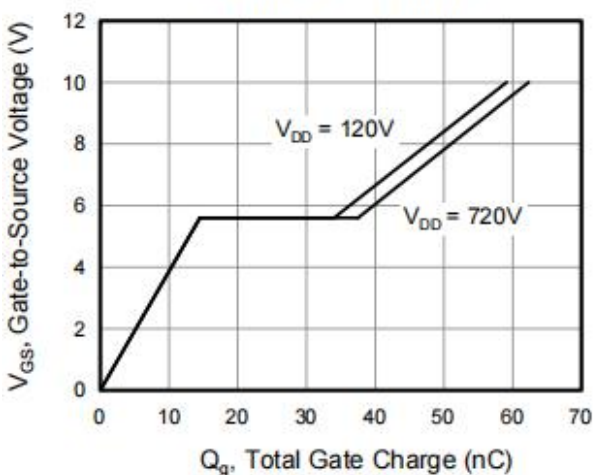
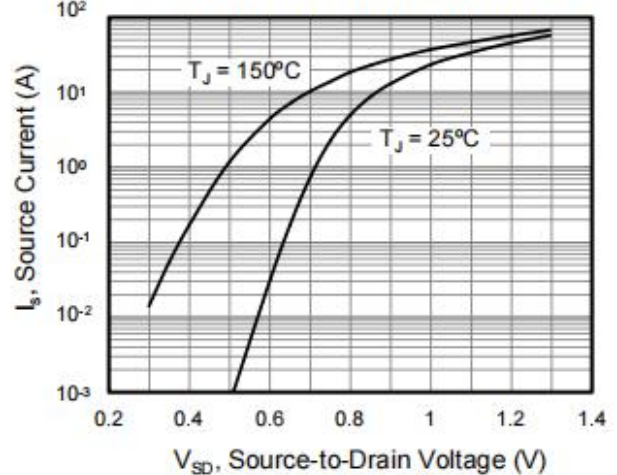


Figure 6. Body Diode Forward Voltage



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Figure 7. On-Resistance vs. Junction Temperature

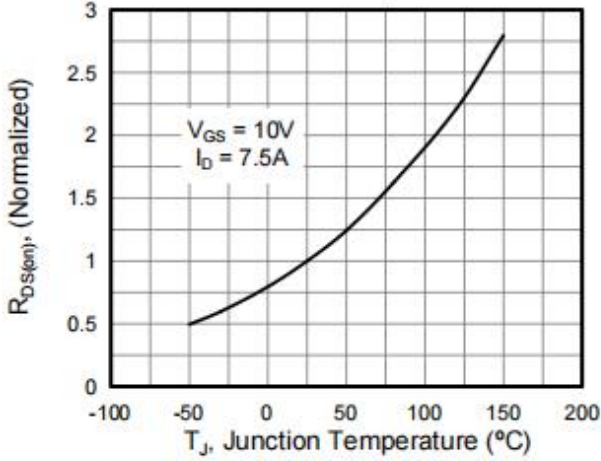


Figure 8. Threshold Voltage vs. Junction Temperature

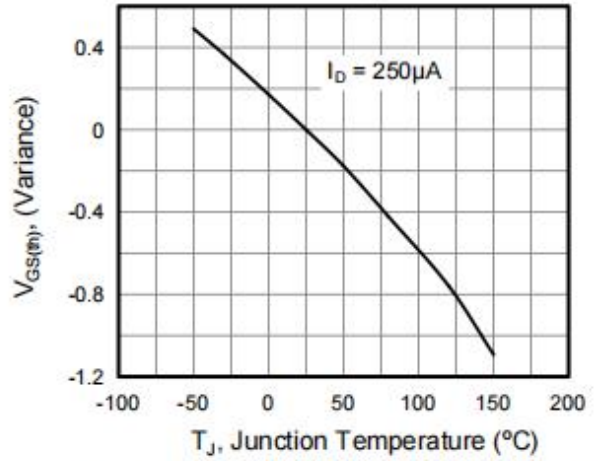


Figure 9. Transient Thermal Impedance For TO-220F

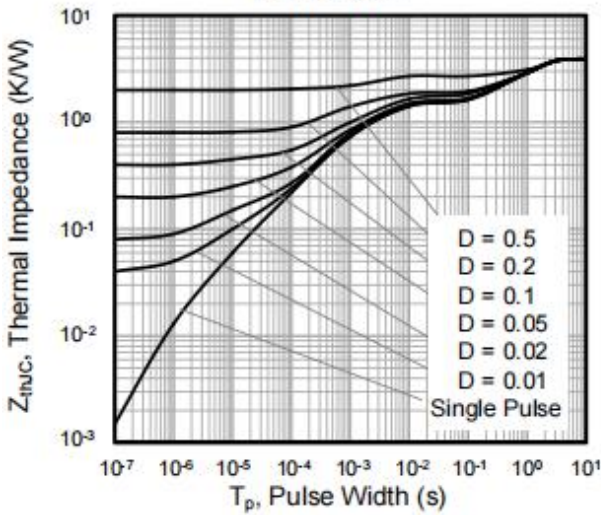


Figure 10. Transient Thermal Impedance For TO-263/TO-220/TO-247

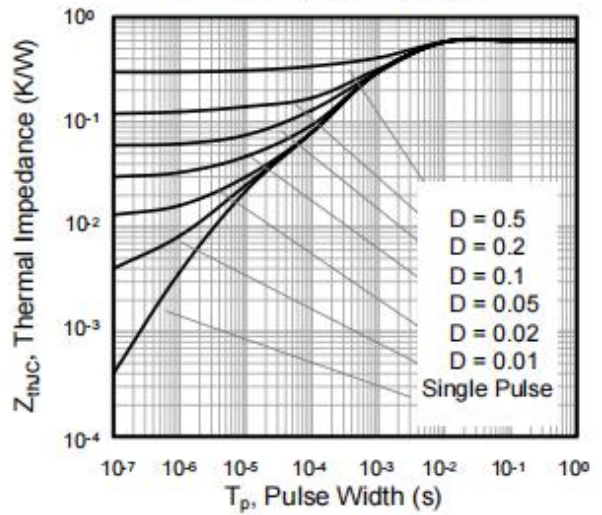


Figure 11. Safe Operation Area For TO-220F

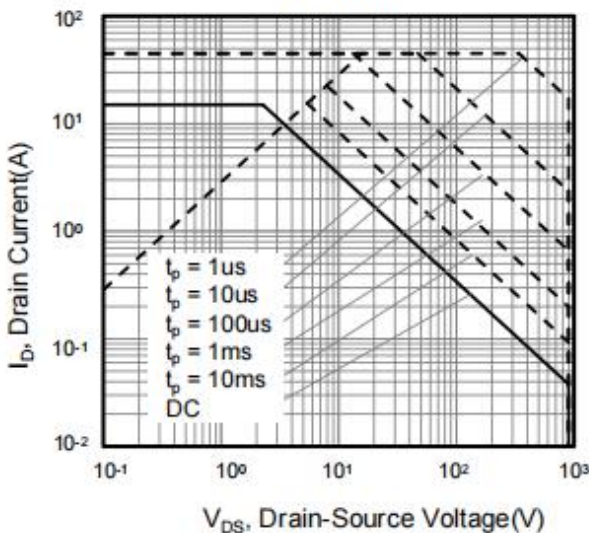
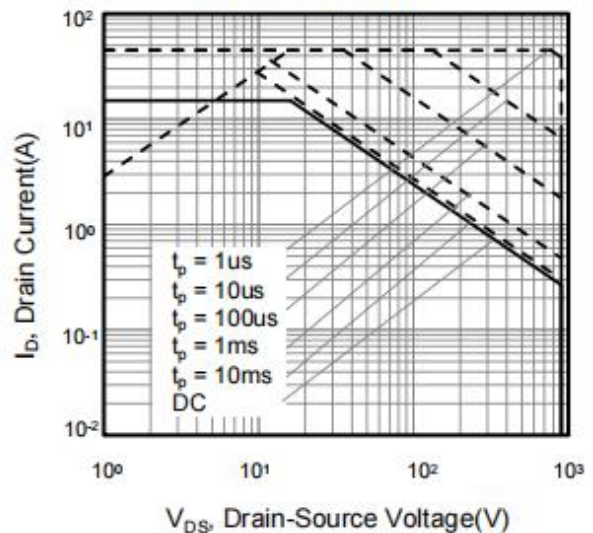


Figure 12. Safe Operation Area For TO-263/TO-220/TO-247



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