Electrical Characteristics (T_J = 25°C unless otherwise specified)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
Off Characteristics						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	I_D = 250μA, V_{GS} = 0V	650	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 650V, V_{GS} = 0V	-	-	1.0	μA
I_{GSS}	Gate-Body Leakage Current	V_{DS} = 0V, V_{GS} = ±30V	-	-	±100	nA
On Characteristics						
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_D = 250μA	2	3	4	V
$R_{DS(ON)}$			-	0.4	0.47	Ω
C_{iss}			-	3234	-	pF
C_{oss}			-	266	-	pF
C_{rss}			-	34	-	pF
Q_g	Total Gate Charge		-	73	-	nC
Q_{gs}	Gate Source Charge		-	17	-	nC
Q_{gd}	Gate Drain("Miller") Charge		-	29	-	nC
$t_{d(on)}$			-	45	-	ns
t_r			-	64	-	ns
$t_{d(off)}$			-	218	-	ns
t_f			-	84	-	ns
I_S			-	-	20	A
I_{SM}			-	-	80	A
V_{SD}			-	-	1.2	V
trr			-	494	-	ns
Qrr			-	7.9	-	μC

Notes:

1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature.
2. E_{AS} condition: Starting T_J=25C, V_{DD}=50V, V_G=10V, R_G=25ohm, L=10mH, I_{AS}=14A
3. $R_{\theta JA}$ is measured with the device mounted on a minimum recommended pad of 2oz copper FR4 PCB
4. Pulse Test: Pulse Width 300μs, Duty Cycle 0.5%.

Typical Performance Characteristics

Figure 1: Output Characteristics

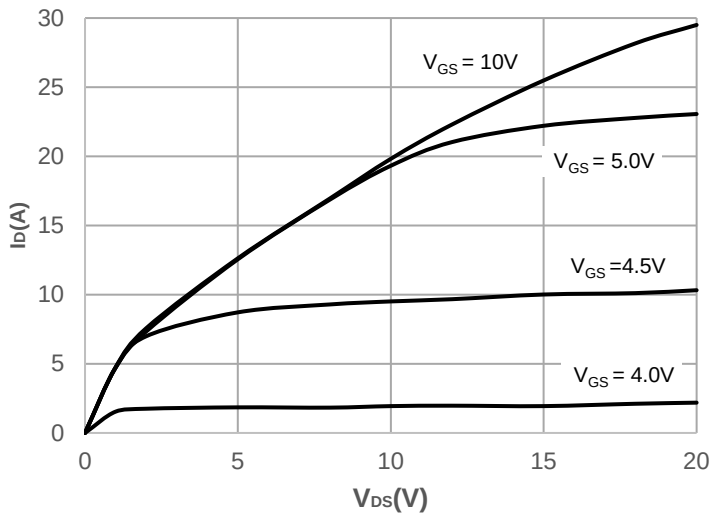
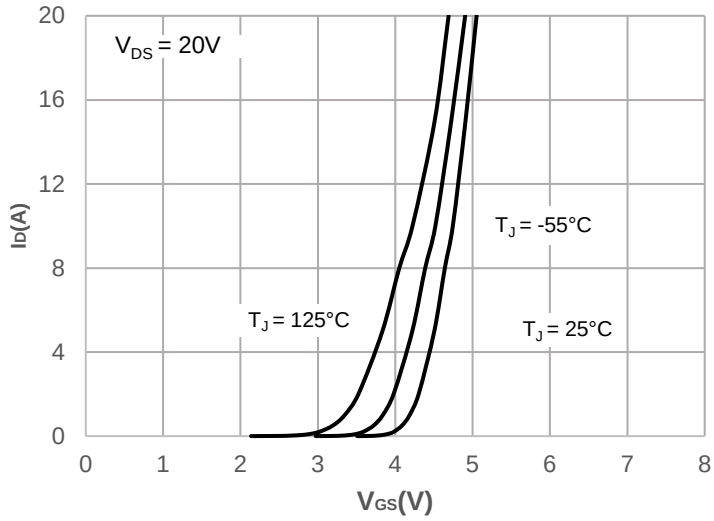
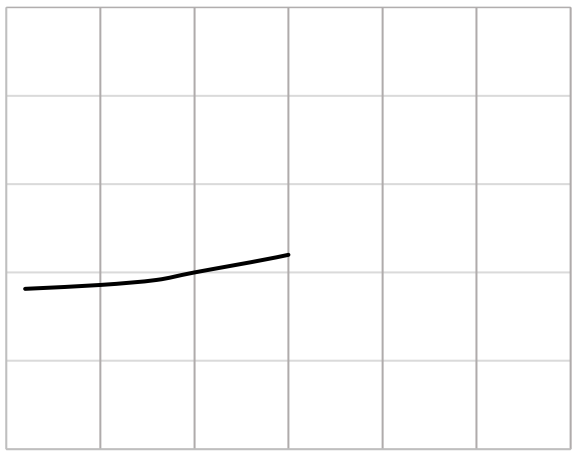


Figure 2: Typical Transfer Characteristics





Typical Performance Characteristics

Figure 7: Normalized Breakdown voltage vs. Junction Temperature

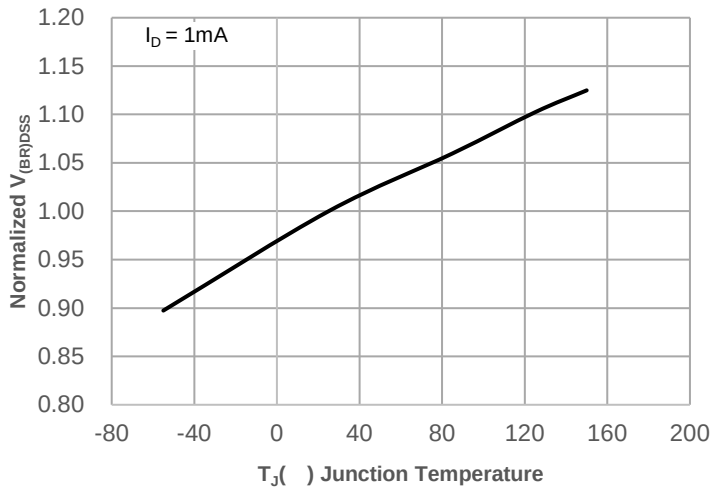


Figure 8: Normalized on Resistance vs. Junction Temperature

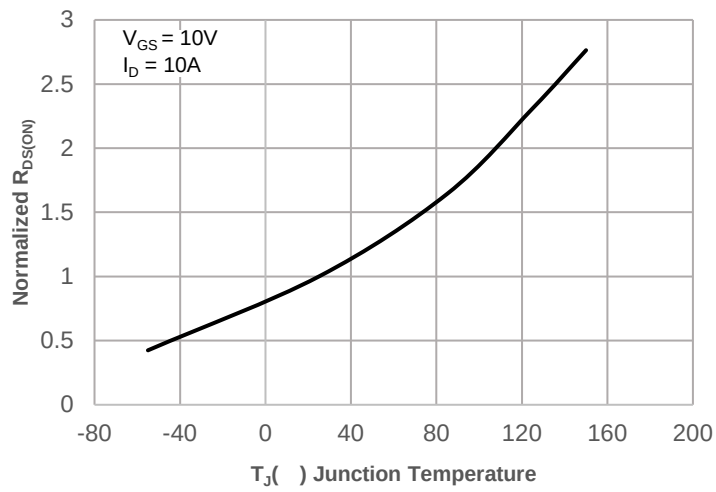
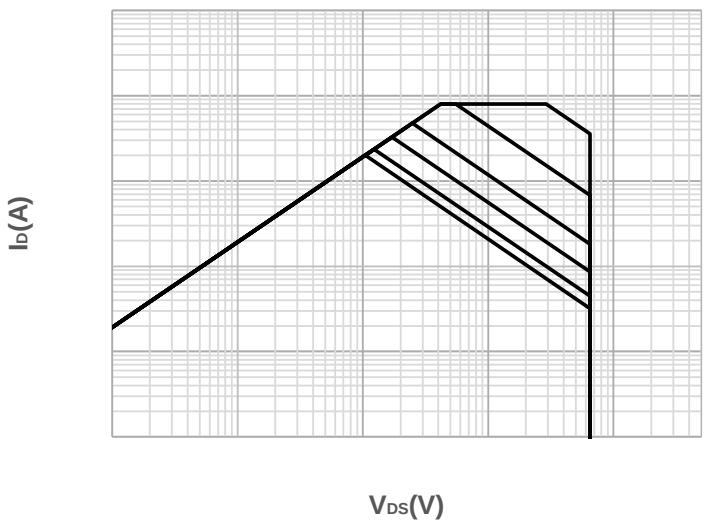


Figure 9: Maximum Safe Operating Area



Package Mechanical Data(TO-220C-3L)