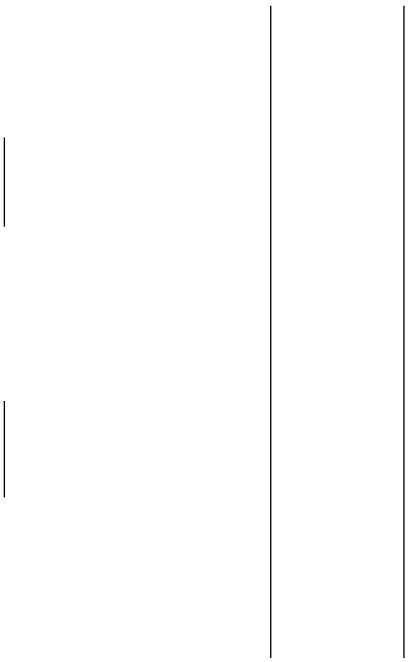
Features

Low gate charge
Improved dv/dt capability
RoHS compliant
JEDEC Qualification

Absolute Maximum Ratings



Electrical Characteristics : T_C=25 , unless otherwise noted

Parameter	Symbol	Test condition	Min	Typ	Max	Unit
OFF						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS} = 0 V, I_D = 250 µA	800	--	□	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 800 V, V_{GS} = 0 V	--	--	10	µA
		V_{DS} = 640 V, T_C = 125 ℃	--	--	100	µA
Forward Gate-Source Leakage Current	I_{GSSF}	V_{GS} = 30 V, V_{DS} = 0 V	--	--	100	nA
Reverse Gate-Source Leakage Current	I_{GSSR}	V_{GS} = -30 V, V_{DS} = 0 V	--	--	-100	nA
ON						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250 µA	2	--	4	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = 10 V, I_D = 3.5 A	--	1.59	1.9	
Forward Transconductance (Note 4)	g_{FS}	V_{DS} = 30 V, I_D = 3.5 A	--	8	--	S
DYNAMIC						
Input Capacitance	C_{iss}	V_{DS} = 25 V, V_{GS} = 0 V, D168/Lang (en-US)<BDC BT1-0 0 1 458F68 415.1 T	--	1110	--	pF
Output Capacitance	C_{oss}	f = 1.0 MHz	--	120	--	pF
Reverse Transfer Capacitance	C_{rss}		--	20	--	pF
SWITCHING						
Turn-On Delay Time (Note 4,5)	$t_{d(on)}$	V_{DD} ID 150.17 349.46 Tm[(ID 150.17 349.47.13 Tc[(--))>BDC 567.18 T2r				

Note :
1. Repeated rating : Pulse width limited by safe operating area
2. L=8.7mH, I_{AS} = 7A, V_{DD} = 50V, R_G = 25 , Starting T_J= 25 , not subject to production test verified by design/characterization
3 I_{SD} 7A, di/dt µs , V_{DD} $_{DS}$, Starting T_J= 25
µ
5. Essentially Independent of Operating Temperature Typical Characteristics

Fig. 1 Output Characteristics

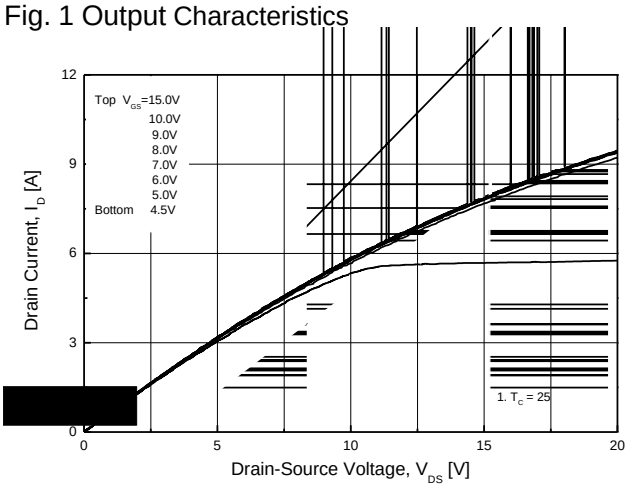


Fig. 2 Transfer Characteristics

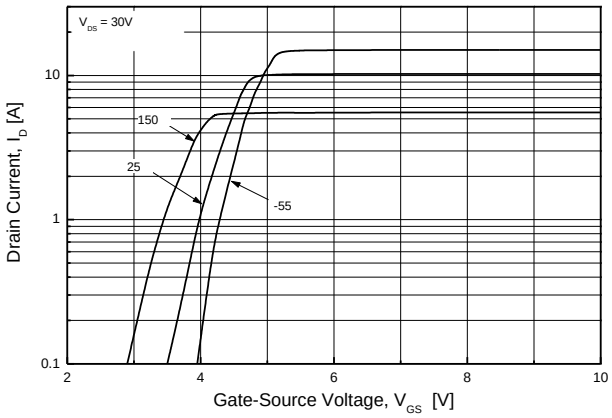


Fig. 3 On-Resistance vs.
Drain Current and Gate voltage

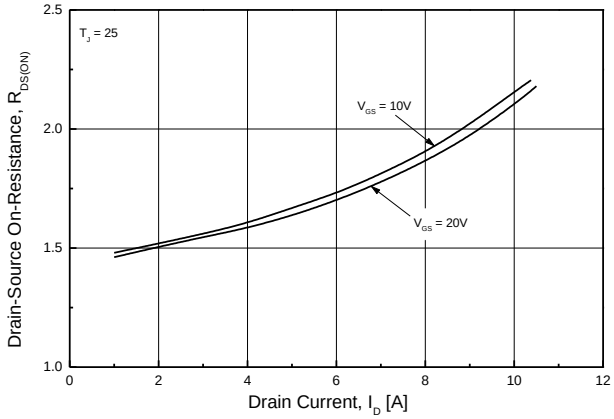


Fig. 4 Body Diode Forward Voltage vs.
Source Current and Temperature

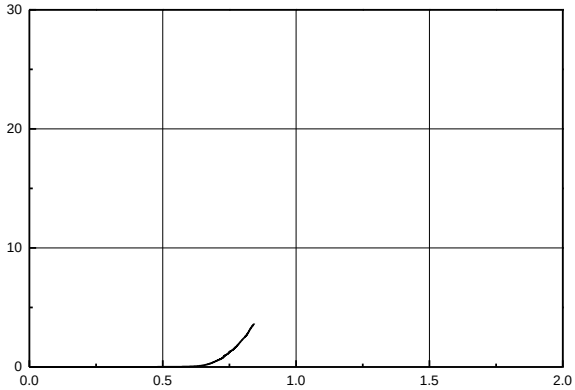


Fig. 5 Capacitance Characteristics

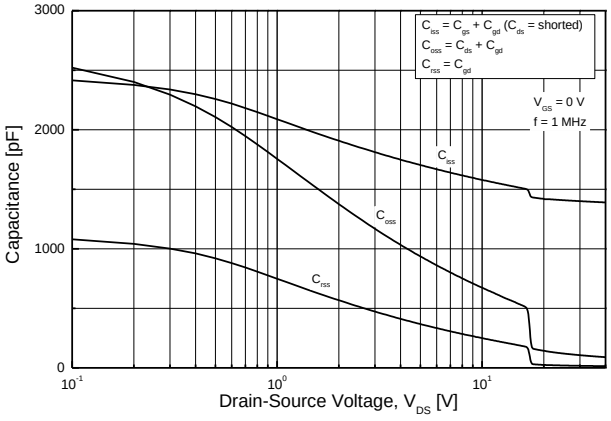
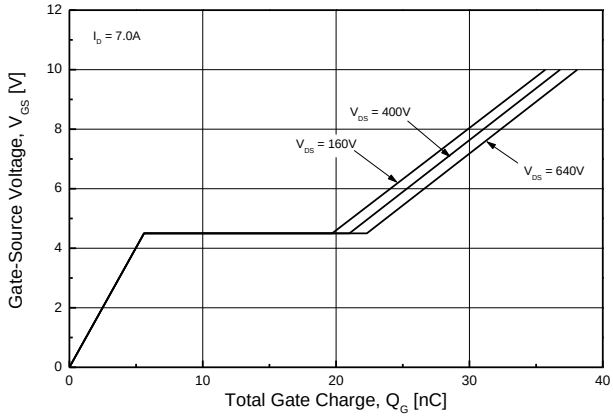
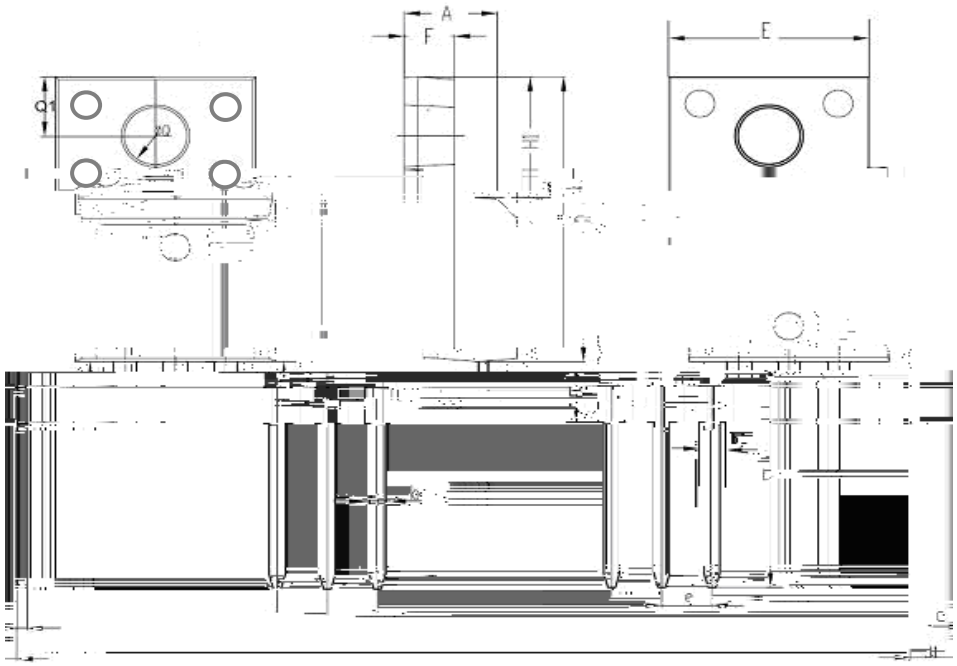


Fig. 6 Gate Charge Characteristics



TO-220F-3L MECHANICAL DATA



SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	0.178	0.194	4.53	4.93	
b	0.028	0.036	0.71	0.91	
C	0.018	0.024	0.45	0.60	
D	0.617	0.633	15.67	16.07	
E	0.392	0.408	9.96	10.36	
e	0.100 TYP.		2.54TYP.		
H1	0.256	0.272	6.50	6.90	
J1	0.101	0.117	2.56	2.96	
L	0.503	0.519	12.78	13.18	
	0.117	0.133	2.98	3.38	
b1	0.045	0.055	1.15	1.39	
L1	0.114	0.130	2.9	3.3	
Q1	0.122	0.138	3.10	3.50	
F	0.092	0.108	2.34	2.74	