

RoHS Compliant Product
 A suffix of "-C" specifies halogen & lead-free

FEATURES

- 20V/ -1.4A
- $R_{DS(ON)} \leq 300m\Omega @ V_{GS} = -4.5V$
- $R_{DS(ON)} \leq 390m\Omega @ V_{GS} = -2.5V$
- $R_{DS(ON)} \leq 700m\Omega @ V_{GS} = -1.8V$
- Reliable and Rugged
- Green Device Available

APPLICATION

- Interfacing
- Switching

MARKING

3608

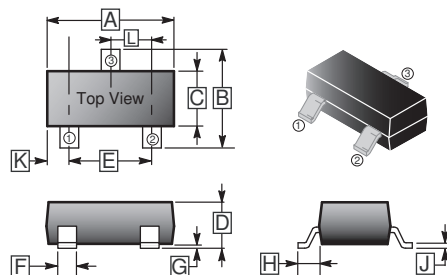
PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-323	3K	7 inch

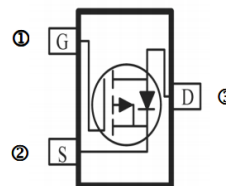
ORDER INFORMATION

Part Number	Type
SSF3608-C	Lead (Pb)-free and Halogen-free

SOT-323



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.80	2.20	G	0.1 REF.	
B	1.80	2.55	H	0.525 REF.	
C	1.1	1.4	J	0.05	0.25
D	0.80	1.15	K	0.8 TYP.	
E	1.20	2.00	L	0.65 TYP.	
F	0.15	0.50			



ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ C$ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 8	V
Continuous Drain Current ² , $V_{GS}=4.5V$	I_D	-1.4	A
Pulsed Drain Current ¹	I_{DM}	-2.8	A
Power Dissipation ²	P_D	350	mW
Operating Junction and Storage Temperature	T_J, T_{STG}	150, -55~150	$^\circ C$
Thermal Resistance Ratings			
Thermal Resistance Junction-ambient ²	$R_{\theta JA}$	357	$^\circ C/W$
Thermal Resistance Junction-ambient ³		625	

ELECTRICAL CHARACTERISTICS ($T_J=25^\circ C$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain-Source Breakdown Voltage	BV_{DSS}	-20	-	-	V	$V_{GS}=0, I_D=-250\mu A$
Gate-Threshold Voltage	$V_{GS(th)}$	-0.3	-	-1	V	$V_{DS}=V_{GS}, I_D=-1mA$
Gate-Source Leakage Current	I_{GSS}	-	-	± 100	nA	$V_{GS}=\pm 8V$
Drain-Source Leakage Current	I_{DSS}	-	-	-1	μA	$V_{DS}=-20V, V_{GS}=0$
Static Drain-Source On-Resistance ⁴	$R_{DS(ON)}$	-	-	300	m Ω	$V_{GS}=-4.5V, I_D=-1.4A$
		-	-	390		$V_{GS}=-2.5V, I_D=-1.2A$
		-	-	700		$V_{GS}=-1.8V, I_D=-0.9A$
Total Gate Charge	Q_g	-	2	-	nC	$I_{DS}=-0.7A$ $V_{DS}=-10V$ $V_{GS}=-4.5V$
Gate-Source Charge	Q_{gs}	-	0.36	-		
Gate-Drain ("Miller") Charge	Q_{gd}	-	0.58	-		
Turn-on Delay Time	$T_{d(on)}$	-	8.7	-	nS	$V_{DD}=-15V$ $I_{DS}=-1A$ $V_{GS}=-4.5V$ $R_{GEN}=5\Omega$
Rise Time	T_r	-	61.2	-		
Turn-off Delay Time	$T_{d(off)}$	-	9.8	-		
Fall Time	T_f	-	38.8	-		
Input Capacitance	C_{iss}	-	122	-	pF	$V_{DS}=-15V$ $V_{GS}=0$ $f=1MHz$
Output Capacitance	C_{oss}	-	29	-		
Reverse Transfer Capacitance	C_{rss}	-	26	-		
Source-Drain Diode						
Diode Forward Voltage ⁴	V_{SD}	-	-	-1.2	V	$I_S=-500mA, V_{GS}=0$

Notes:

1. Pulse width $\leq 10\mu s$, duty cycle $\leq 1\%$.
2. The data tested by surface mounted on a 1 inch² FR4 board with 2OZ copper.
3. Surface mounted on FR4 board.
4. The data tested by pulsed, pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

CHARACTERISTIC CURVES

Fig.1 Typical Output Characteristics(I)

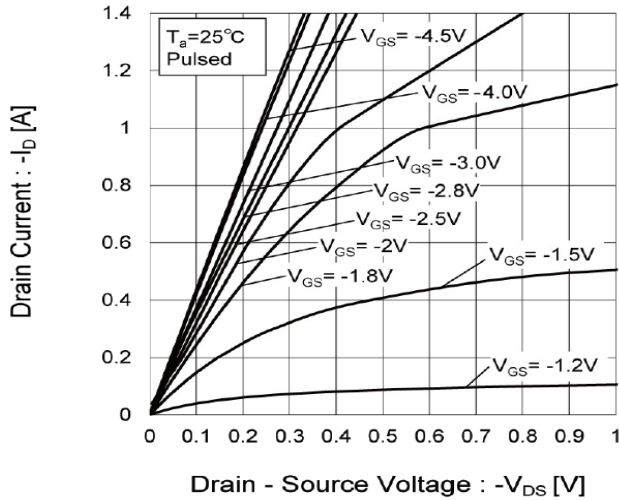


Fig.2 Typical Output Characteristics(II)

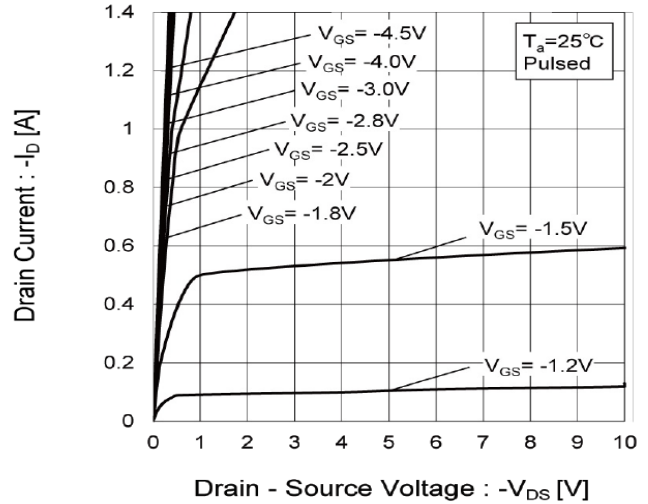


Fig.3 Breakdown Voltage vs. Junction Temperature

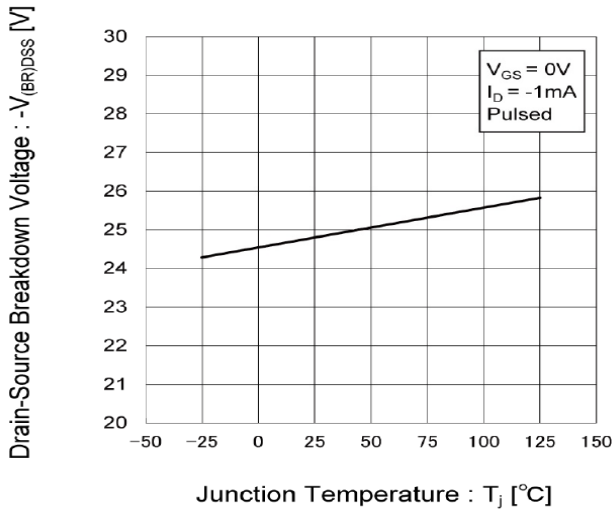


Fig.4 Gate Threshold Voltage vs. Junction Temperature

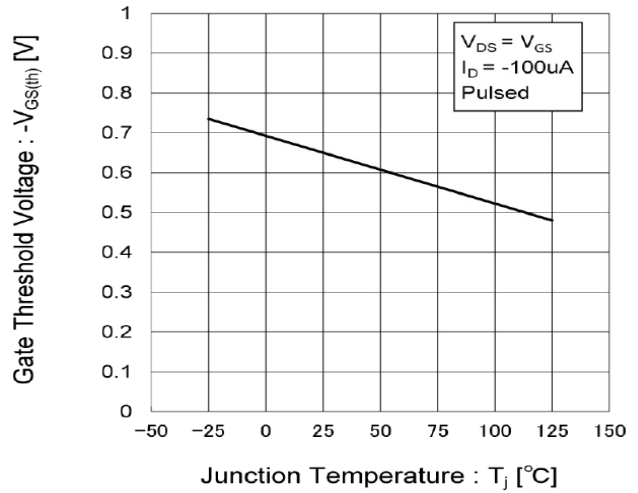


Fig.5 Static Drain - Source On - State Resistance vs. Gate Source Voltage

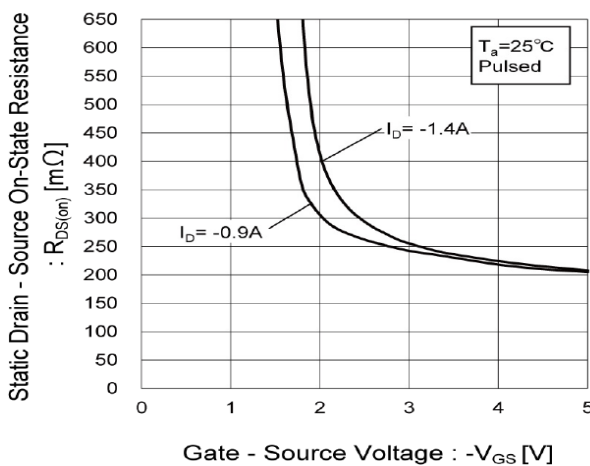
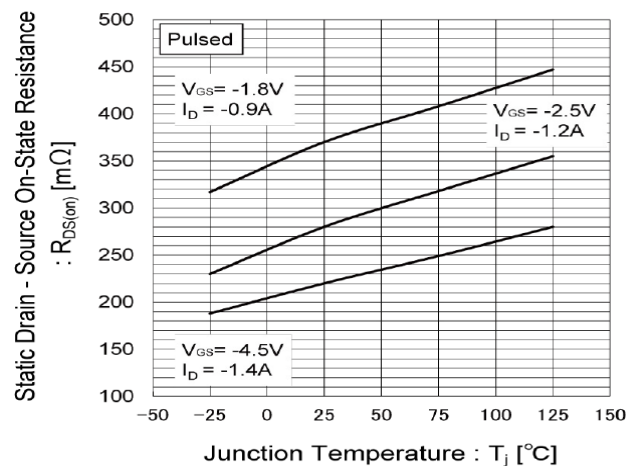


Fig.6 Static Drain - Source On - State Resistance vs. Junction Temperature



CHARACTERISTIC CURVES

Fig.7 Static Drain - Source On - State Resistance vs. Drain Current(I)

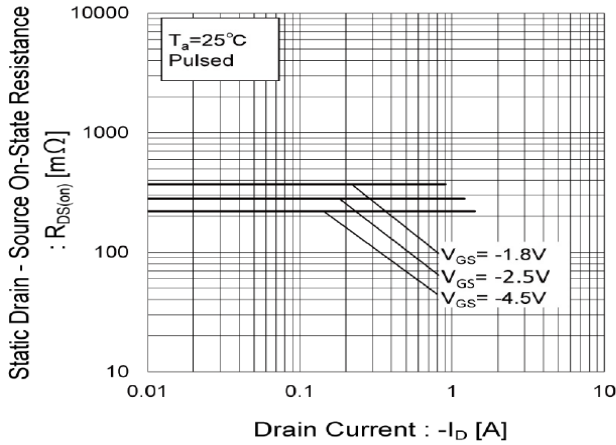


Fig.9 Static Drain - Source On - State Resistance vs. Drain Current(III)

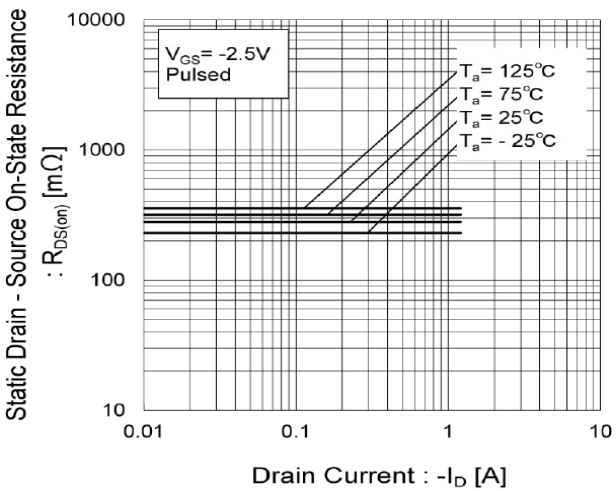


Fig.11 Source Current vs. Source Drain Voltage

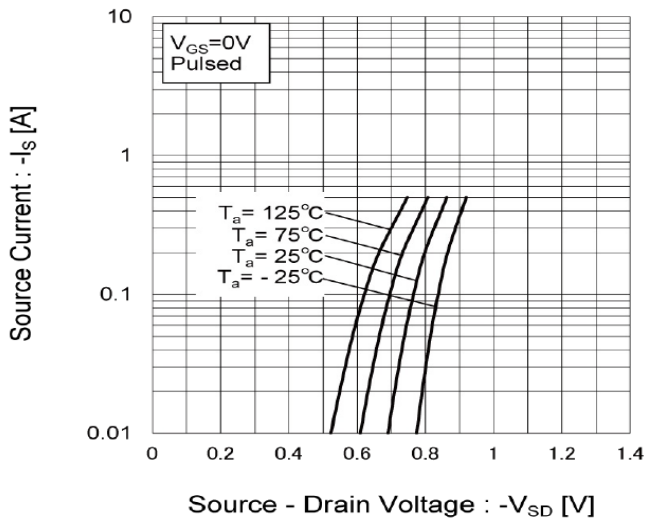


Fig.8 Static Drain - Source On - State Resistance vs. Drain Current(II)

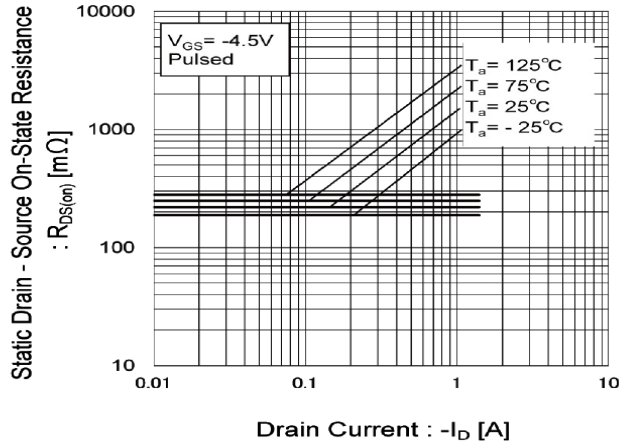


Fig.10 Static Drain - Source On - State Resistance vs. Drain Current(IV)

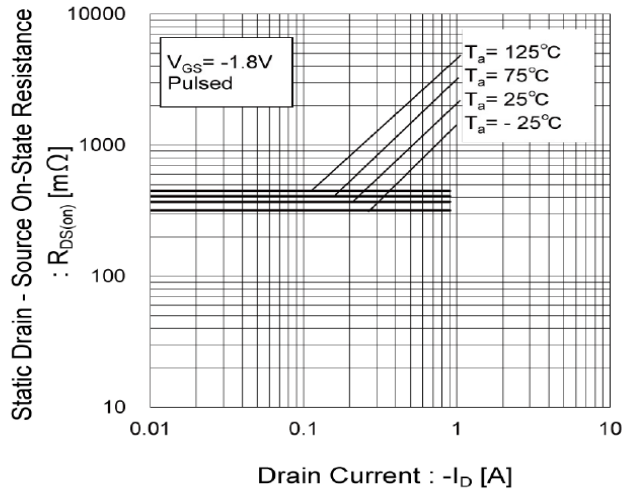
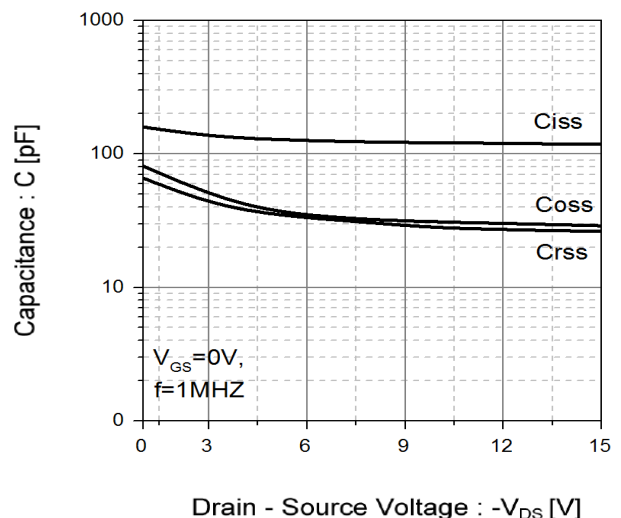


Fig.12 Typical Capacitance vs. Drain - Source Voltage



CHARACTERISTIC CURVES

Fig.13 Gate Charge Characteristics

