

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

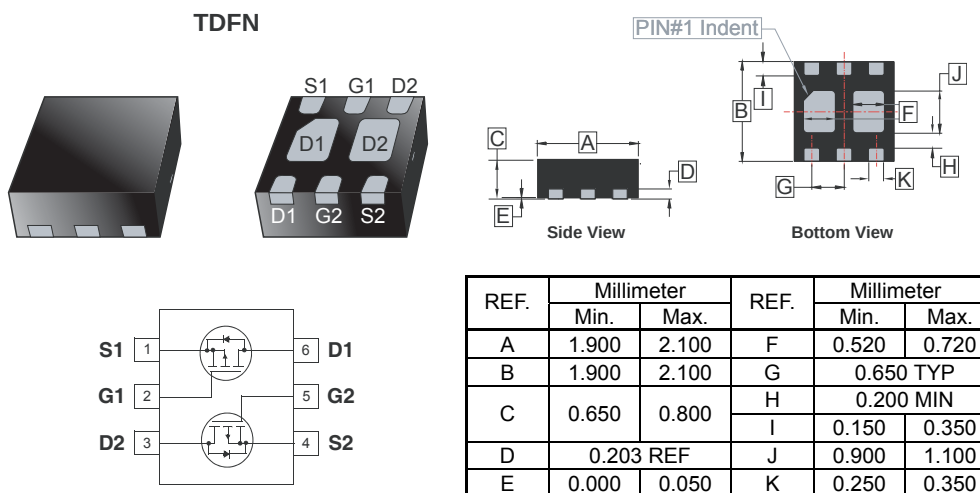
DESCRIPTION

The SSP1027 utilized advance processing techniques to achieve the lowest possible on-resistance, extremely efficient and cost-effectiveness device. The SSP1027 is universally used for all commercial-industrial applications.

FEATURES

- Low On-Resistance
- Low Gate Charge

PACKAGE DIMENSIONS



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current ³	$I_D @ T_A=25^\circ\text{C}$	-3.5	A
	$I_D @ T_A=70^\circ\text{C}$	-2.8	
Pulsed Drain Current ¹	I_{DM}	-15	A
Power Dissipation	$P_D @ T_A=25^\circ\text{C}$	0.7	W
Linear Derating Factor		0.006	W/°C
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 ~ +150	°C

THERMAL DATA

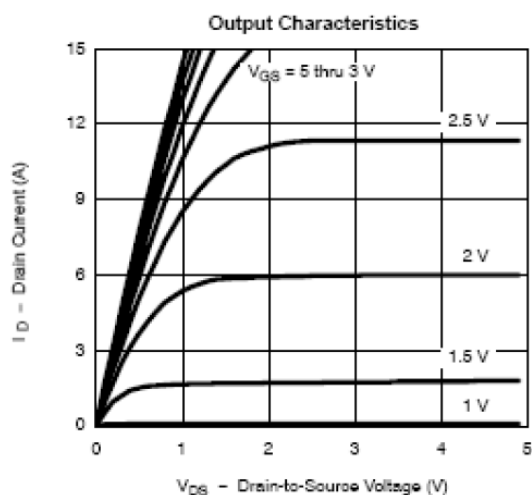
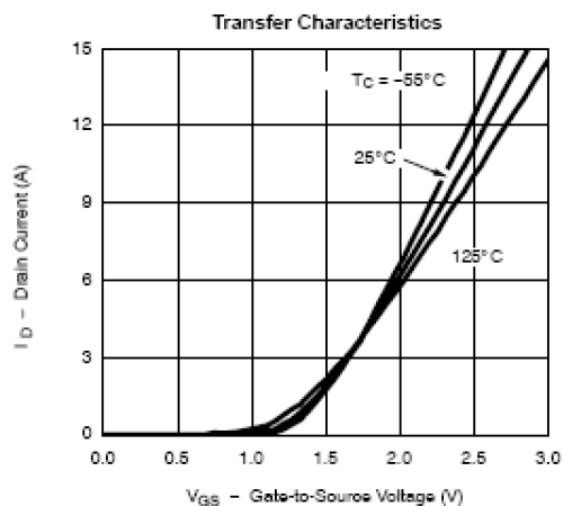
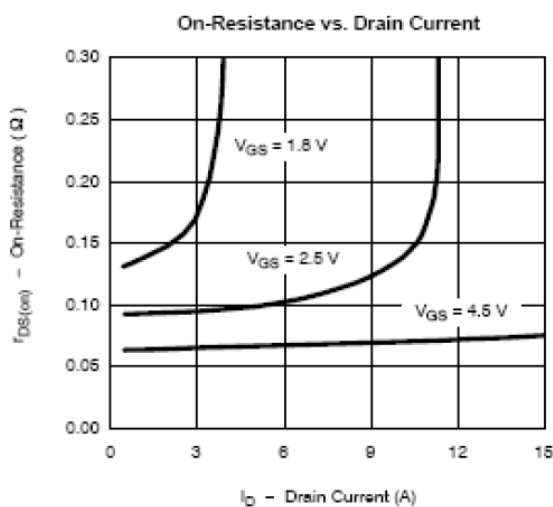
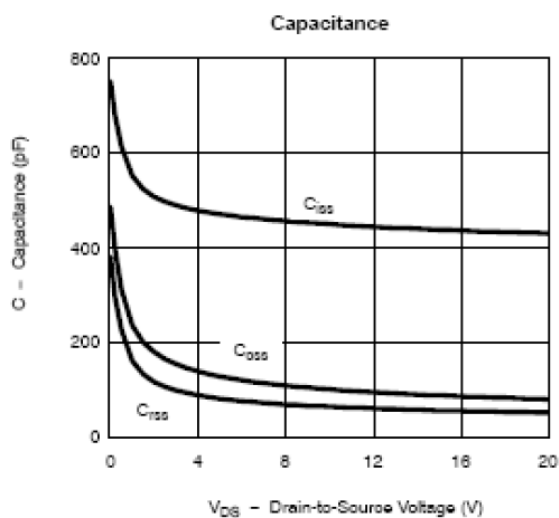
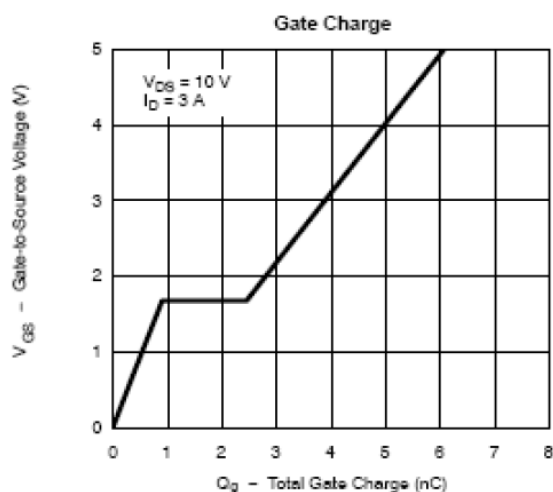
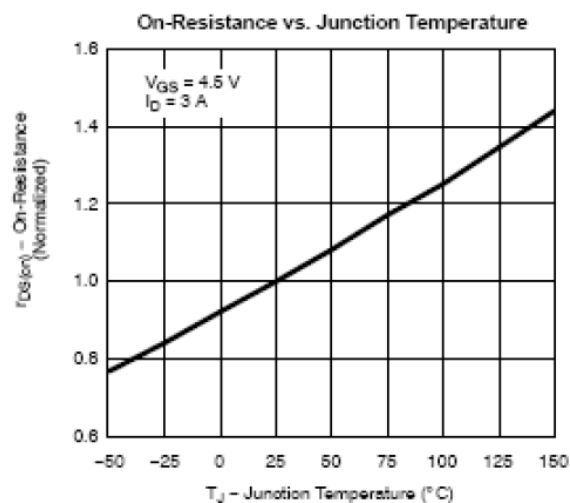
Parameter	Symbol	Ratings	Unit
Thermal Resistance Junction-ambient ³ (Max)	$R_{\theta JA}$	98	°C/W

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions
Static						
Drain-Source Breakdown Voltage	BV _{DSS}	-20	-	-	V	V _{GS} = 0, I _D = -250 uA
Gate Threshold Voltage	V _{GS(th)}	-0.35	-	-0.8	V	V _{DS} = V _{GS} , I _D = -250 uA
Gate Leakage Current	I _{GSS}	-	-	±100	nA	V _{DS} = 0 V, V _{GS} = ±12 V
Drain-Source Leakage Current (T _j =25°C)	I _{DSS}	-	-	-1	uA	V _{DS} = -20 V, V _{GS} = 0
Drain-Source Leakage Current (T _j =70°C)		-	-	-5		V _{DS} = -20 V, V _{GS} = 0, T _J = 55°C
On-State Drain Current	I _{D(on)}	-6	-	-	A	V _{DS} ≤ -5 V, V _{GS} = -4.5 V
Forward Transconductance	g _{fs}	-	6	-	S	V _{DS} = -5 V, I _D = -2.8 A
Diode Forward Voltage	V _{SD}	-	-0.8	-0.2	V	I _S = -1.5 A, V _{GS} = 0 V
Drain-Source On-Resistance	R _{DS(ON)}	-	76	95	mΩ	V _{GS} = -4.5 V, I _D = -3.4 A
		-	97	120		V _{GS} = -2.5 V, I _D = -2.4 A
		-	123	145		V _{GS} = -1.8 V, I _D = -1.7 A
Dynamic						
Total Gate Charge ²	Q _g	-	4.8	8	nC	I _D = -2.8 A V _{DS} = -6 V V _{GS} = -4.5 V
Gate-Source Charge	Q _{gs}	-	1.0	-		
Gate-Drain Charge	Q _{gd}	-	1.0	-		
Turn-on Time	T _{d(on)}	-	10	16	nS	V _{DD} = -6 V I _D = -1 A V _{GEN} = -4.5 V R _G = 6 Ω R _L = 6 Ω
Rise Time	T _r	-	13	23		
Turn-off Time	T _{d(off)}	-	18	25		
Fall Time	T _f	-	15	20		
Input Capacitance	C _{iss}	-	485	-	pF	V _{GS} = 0 V V _{DS} = -6 V f = 1.0 MHz
Output Capacitance	C _{oss}	-	85	-		
Reverse Transfer Capacitance	C _{rss}	-	40	-		

- Notes:
1. Pulse width limited by maximum junction temperature.
 2. Pulse width ≤ 300µs, dutycycle ≤ 2%.
 3. Surface mounted on 1 in² copper pad of FR4 board; 180 °C/W when mounted on minimum copper pad.

CHARACTERISTIC CURVES



CHARACTERISTIC CURVES (con'd)

