

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

FEATURES

- 150V/ -1.7A
 $R_{DS(ON)} \leq 780m\Omega$ @ $V_{GS} = -10V$
 $R_{DS(ON)} \leq 810m\Omega$ @ $V_{GS} = -6V$
- Reliable and Rugged
- Green Device Available

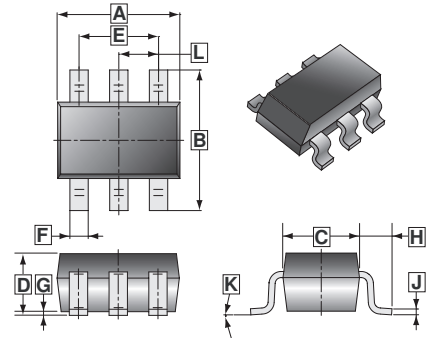
APPLICATION

- Power Management in Notebook Computer
- Portable Equipment and Battery Powered Systems

MARKING



SOT-26



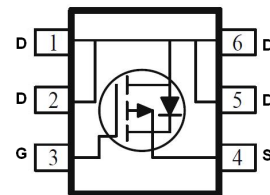
PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-26	3K	7 inch

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	0	0.10
B	2.60	3.00	H	0.60	REF.
C	1.40	1.80	J	0.12	REF.
D	1.30	MAX.	K	0°	10°
E	1.90	REF.	L	0.95	REF.
F	0.25	0.50			

ORDER INFORMATION

Part Number	Type
SST7815-C	Lead (Pb)-free and Halogen-free



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DS}	-150	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current, @ $V_{GS} = -10V$ ¹	I_D	$T_C = 25^\circ C$	-1.7
		$T_C = 70^\circ C$	-1.4
		$T_A = 25^\circ C$	-1.3
		$T_A = 70^\circ C$	-1
Pulsed Drain Current ³	I_{DM}	-6.8	A
Total Power Dissipation	P_D	$T_C = 25^\circ C$	3.2
		$T_A = 25^\circ C$	2
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55~150	$^\circ C$

Thermal Data

Parameter	Symbol	Ratings	Unit
Thermal Resistance Junction-ambient ¹	$R_{\theta JA}$	$t \leq 5sec, 62.5$	$^\circ C/W$
		Steady State, 125	
Thermal Resistance Junction-ambient ²		156	
Thermal Resistance Junction-case ¹	$R_{\theta JC}$	39	

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

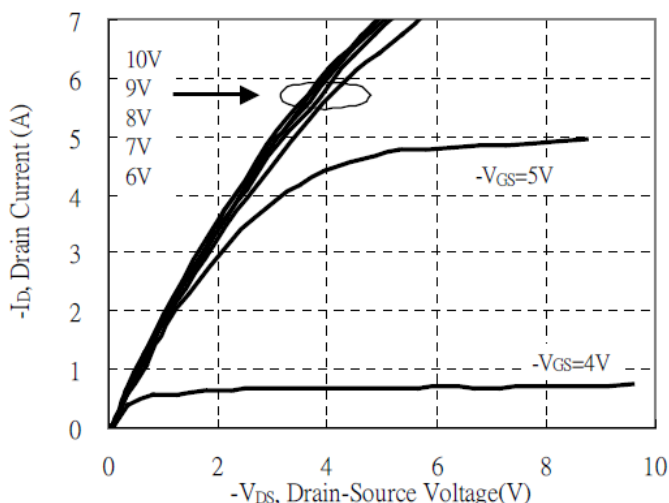
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions	
Drain-Source Breakdown Voltage	BV_{DSS}	-150	-	-	V	$V_{GS}=0, I_D=-250\mu\text{A}$	
Gate Threshold Voltage	$V_{GS(th)}$	-2	-	-4	V	$V_{DS}=V_{GS}, I_D=-250\mu\text{A}$	
Forward Transconductance	g_{fs}	-	2.9	-	S	$V_{DS}=-10\text{V}, I_D=-1.4\text{A}$	
Gate-Source Leakage Current	I_{GSS}	-	-	± 100	nA	$V_{GS}=\pm 20\text{V}$	
Drain-Source Leakage Current	I_{DSS}	$T_J=25^\circ\text{C}$	-	-	-1	μA	$V_{DS}=-120\text{V}, V_{GS}=0$
		$T_J=55^\circ\text{C}$	-	-	-10		
Static Drain-Source On-Resistance ⁴	$R_{DS(ON)}$	-	-	780	m Ω	$V_{GS}=-10\text{V}, I_D=-1.4\text{A}$	
		-	-	810		$V_{GS}=-6\text{V}, I_D=-1\text{A}$	
Total Gate Charge	Q_g	-	11	-	nC	$I_D=-1\text{A}$ $V_{DS}=-75\text{V}$ $V_{GS}=-10\text{V}$	
Gate-Source Charge	Q_{gs}	-	2.5	-			
Gate-Drain Charge	Q_{gd}	-	2.4	-			
Turn-on Delay Time	$T_{d(on)}$	-	9	-	nS	$V_{DS}=-75\text{V}$ $I_D=-1\text{A}$ $V_{GS}=-10\text{V}$ $R_G=1\Omega$	
Rise Time	T_r	-	6	-			
Turn-off Delay Time	$T_{d(off)}$	-	23	-			
Fall Time	T_f	-	8	-			
Input Capacitance	C_{iss}	-	571	-	pF	$V_{GS}=0$ $V_{DS}=-30\text{V}$ $f=1\text{MHz}$	
Output Capacitance	C_{oss}	-	29	-			
Reverse Transfer Capacitance	C_{rss}	-	17	-			
Source-Drain Diode							
Forward on Voltage ⁴	V_{SD}	-	-	-1.2	V	$I_S=-1\text{A}, V_{GS}=0$	
Continuous Source Current ¹	I_S	-	-	-1.7	A		
Pulsed Source Current ³	I_{SM}	-	-	-6.8			
Reverse Recovery Time	t_{rr}	-	60	-	nS	$I_F=-1\text{A}, dI/dt=100\text{A}/\mu\text{s}$	
Reverse Recovery Charge	Q_{rr}	-	120	-	nC	$T_J=25^\circ\text{C}$	

Notes:

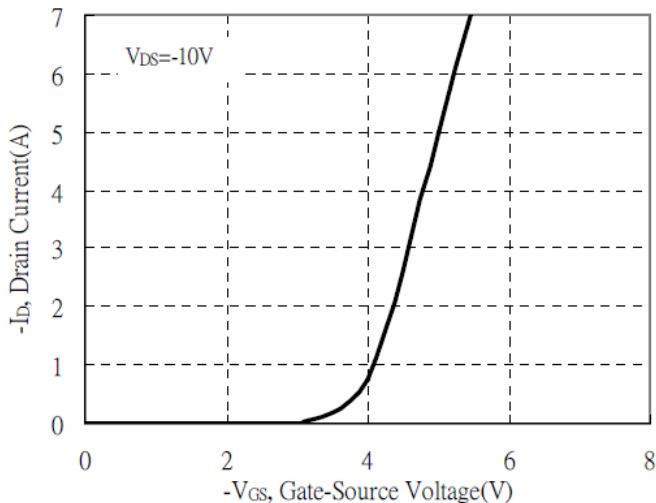
1. Surface mounted on a 1 inch² FR-4 board with 2OZ copper.
2. When mounted on Min. copper pad.
3. Pulse width limited by maximum junction temperature.
4. The data tested by pulsed, pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

CHARACTERISTIC CURVES

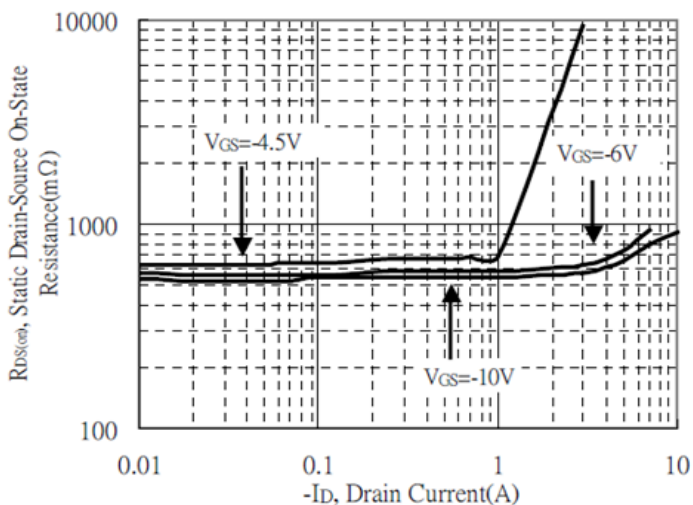
Typical Output Characteristics



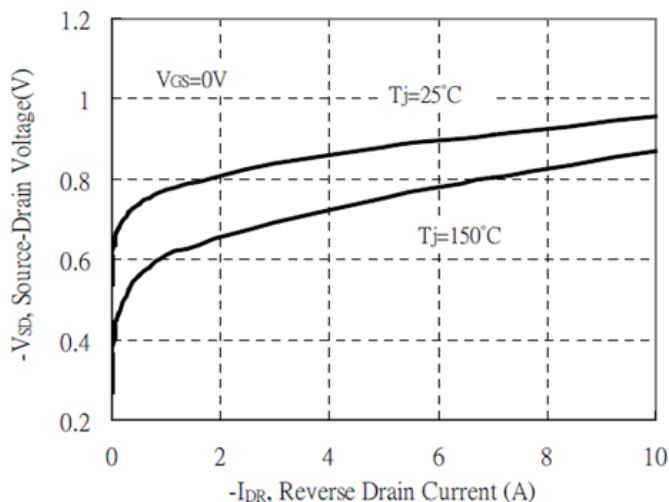
Typical Transfer Characteristics



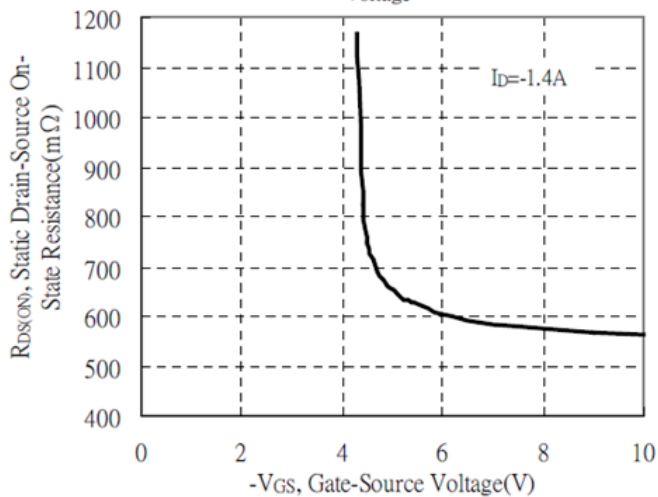
Static Drain-Source On-State resistance vs Drain Current



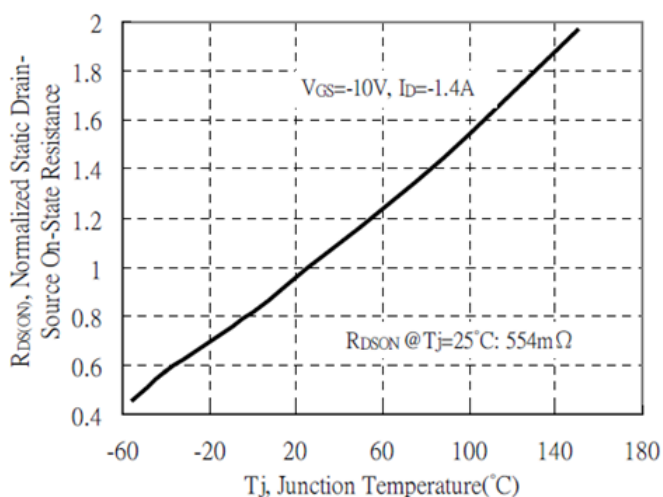
Reverse Drain Current vs Source-Drain Voltage



Static Drain-Source On-State Resistance vs Gate-Source Voltage

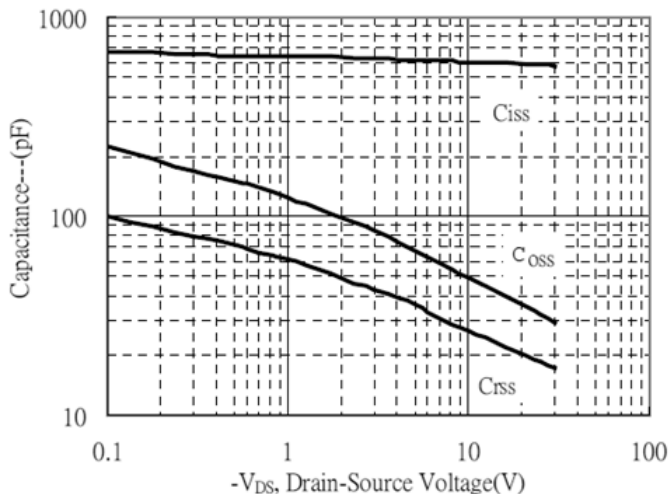


Drain-Source On-State Resistance vs Junction Temperature

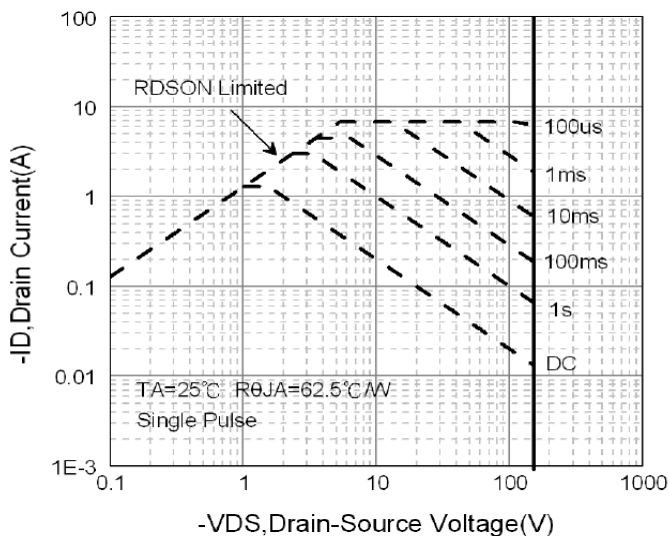
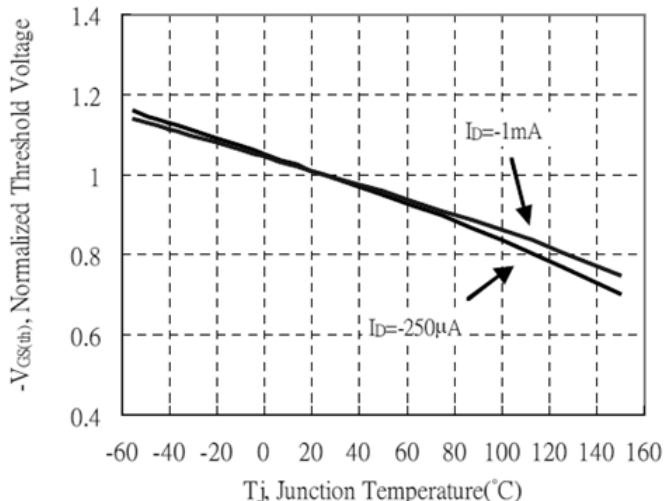


CHARACTERISTIC CURVES

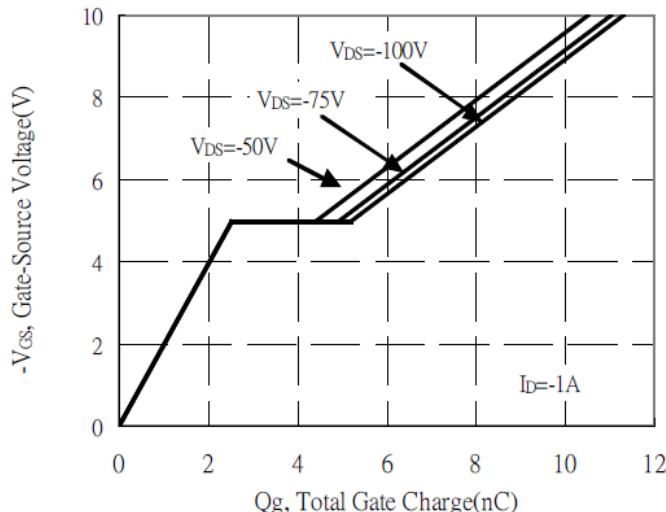
Capacitance vs Drain-to-Source Voltage



Threshold Voltage vs Junction Temperature



Gate Charge Characteristics



Transient Thermal Response Curves

