

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

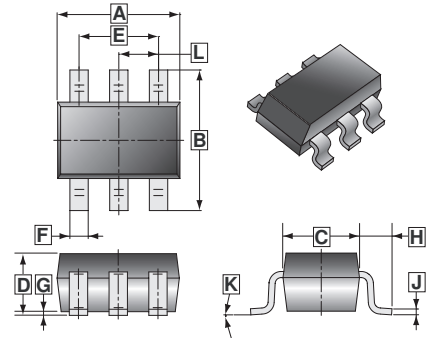
## APPLICATION

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

## MARKING



## SOT-26



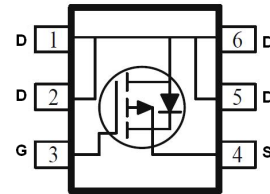
## PACKAGE INFORMATION

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	$V_{GS}$	$\pm 20$	V
Continuous Drain Current, @ $V_{GS} = -10V$ <sup>1</sup>	$I_D$	$T_C = 25^\circ C$	-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 <sup>3</sup>	$I_{DM}$	-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 <sup>1</sup>	$R_{\theta JA}$	$t \leq 5sec, 62.5$	$^\circ C/W$
		Steady State, 125	
Thermal Resistance Junction-ambient <sup>2</sup>		156	
Thermal Resistance Junction-case <sup>1</sup>	$R_{\theta JC}$	39	

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

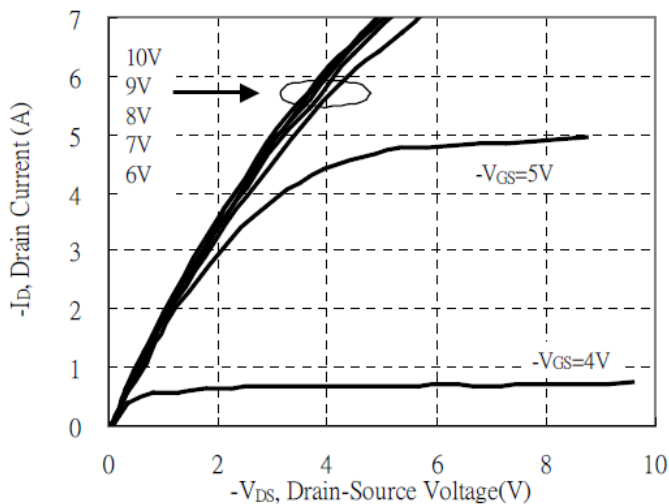
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions	
Drain-Source Breakdown Voltage	$BV_{DSS}$	-150	-	-	V	$V_{GS}=0, I_D=-250\mu\text{A}$	
Gate Threshold Voltage	$V_{GS(th)}$	-2	-	-4	V	$V_{DS}=V_{GS}, I_D=-250\mu\text{A}$	
Forward Transconductance	$g_{fs}$	-	2.9	-	S	$V_{DS}=-10\text{V}, I_D=-1.4\text{A}$	
Gate-Source Leakage Current	$I_{GSS}$	-	-	$\pm 100$	nA	$V_{GS}=\pm 20\text{V}$	
Drain-Source Leakage Current	$I_{DSS}$	$T_J=25^\circ\text{C}$	-	-	-1	$\mu\text{A}$	$V_{DS}=-120\text{V}, V_{GS}=0$
		$T_J=55^\circ\text{C}$	-	-	-10		
Static Drain-Source On-Resistance <sup>4</sup>	$R_{DS(ON)}$	-	-	780	m $\Omega$	$V_{GS}=-10\text{V}, I_D=-1.4\text{A}$	
		-	-	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 Change	$Q_{gd}$	-	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	-			
<b>Source-Drain Diode</b>							
Forward on Voltage <sup>4</sup>	$V_{SD}$	-	-	-1.2	V	$I_S=-1\text{A}, V_{GS}=0$	
Continuous Source Current <sup>1</sup>	$I_S$	-	-	-1.7	A		
Pulsed Source Current <sup>3</sup>	$I_{SM}$	-	-	-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:

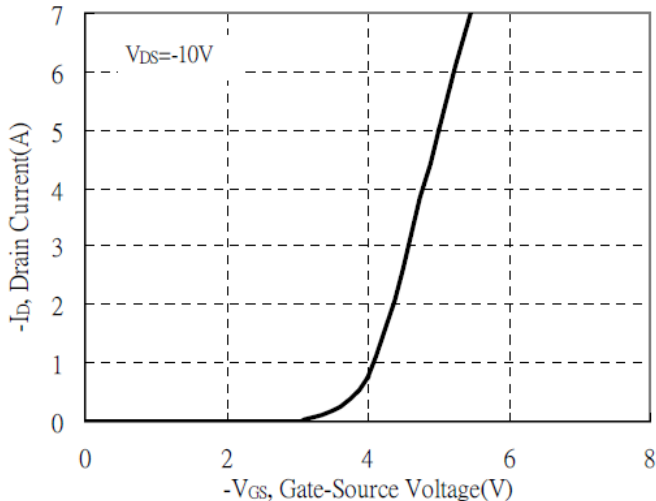
1. Surface mounted on a 1 inch<sup>2</sup> FR-4 board with 2OZ copper.
2. When mounted on Min. copper pad.
3. Pulse width limited by maximum junction temperature.
4. The data tested by pulsed, pulse width  $\leq 300\mu\text{s}$ , duty cycle  $\leq 2\%$ .

**CHARACTERISTIC CURVES**

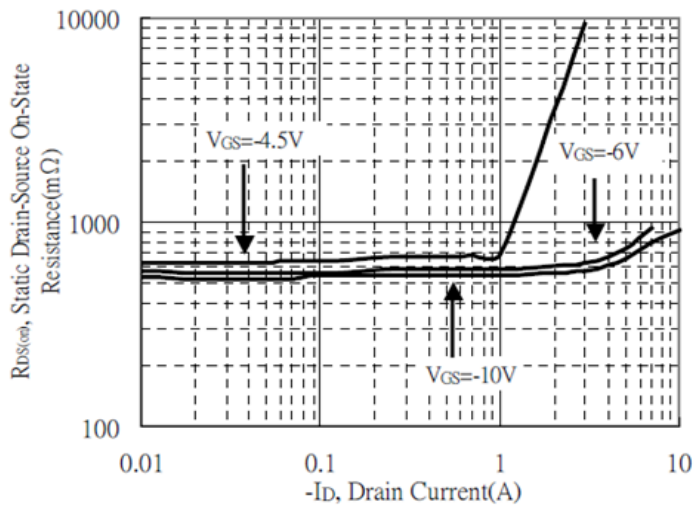
Typical Output Characteristics



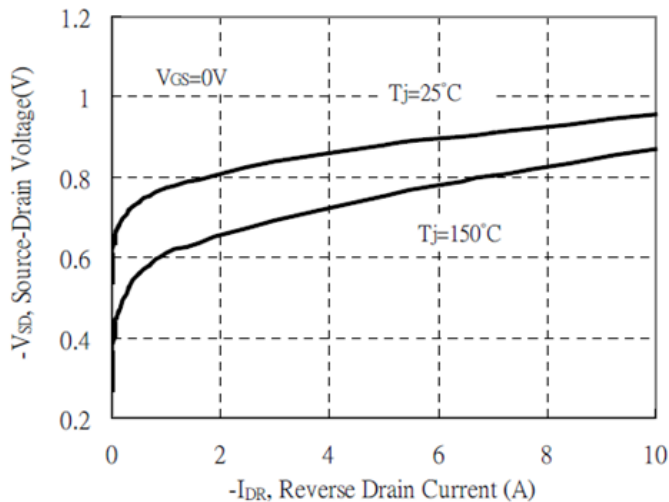
Typical Transfer Characteristics



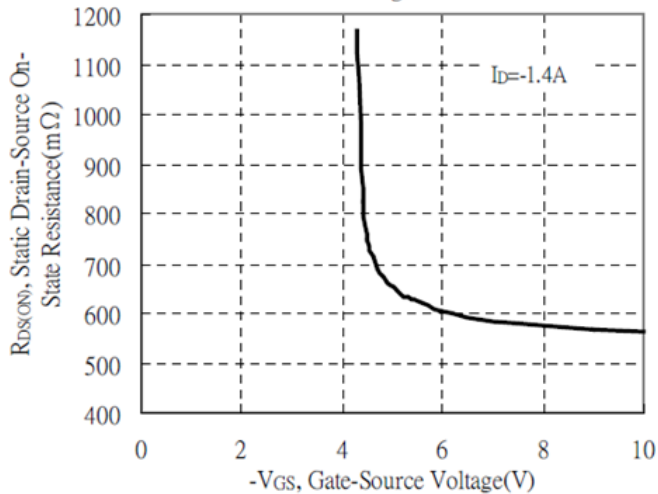
Static Drain-Source On-State resistance vs Drain Current



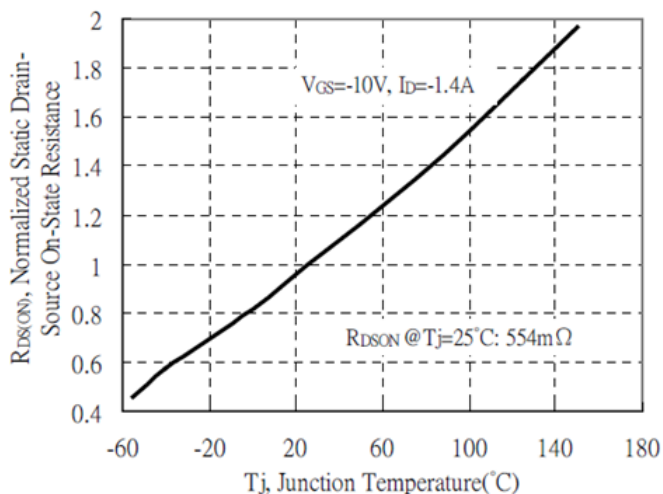
Reverse Drain Current vs Source-Drain Voltage



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

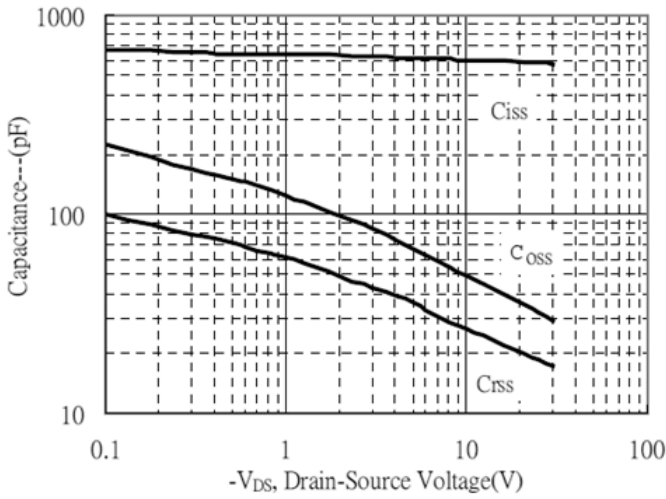


Drain-Source On-State Resistance vs Junction Temperature

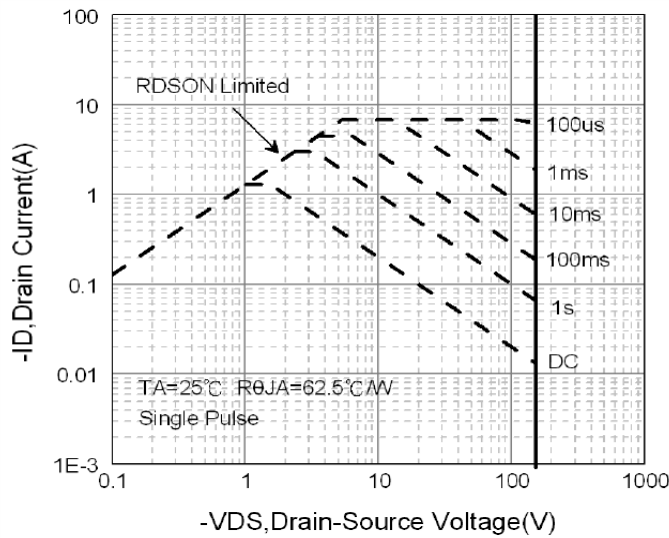
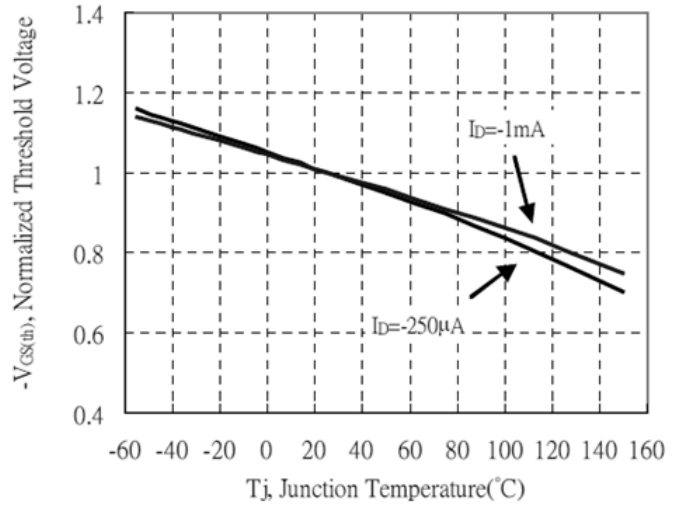


**CHARACTERISTIC CURVES**

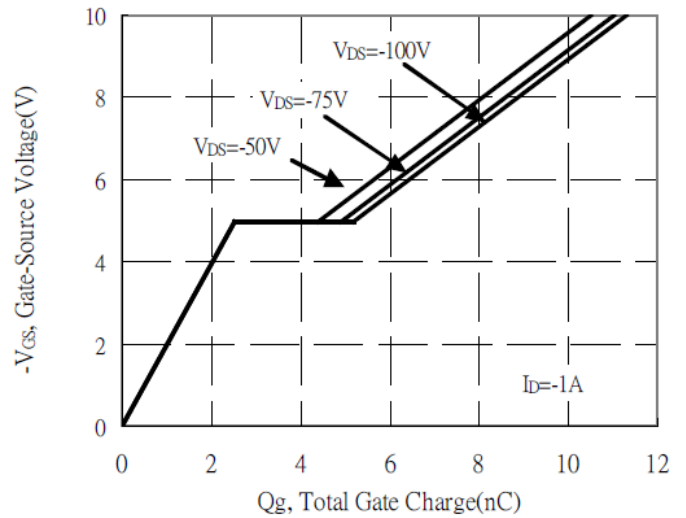
Capacitance vs Drain-to-Source Voltage



Threshold Voltage vs Junction Temperature



Gate Charge Characteristics



Transient Thermal Response Curves

