Elektronische Bauelemente

SST8205S

6.0A , 20V , $R_{DS(ON)}$ 28 mΩ
N-Ch Enhancement Mode Power MOSFET

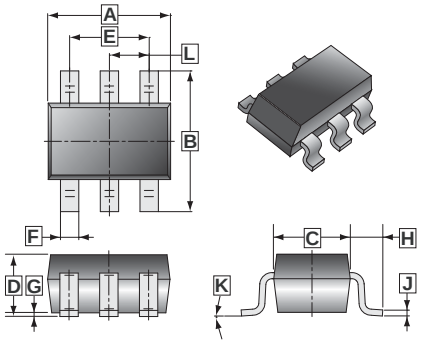
RoHS Compliant Product
A suffix of "-C" specifies halogen and lead-free

DESCRIPTION

The SST8205S provide the designer with best combination of fast switching, low on-resistance and cost-effectiveness.

The SOT-26 package is universally used for all commercial-industrial surface mount applications.

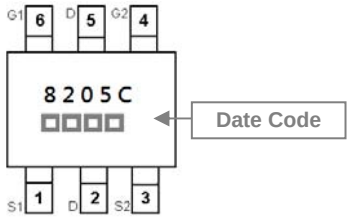
SOT-26



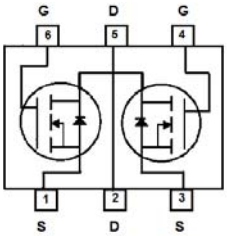
FEATURES

- Low on-resistance
- Capable of 2.5V gate drive
- Low drive current

MARKING



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	0.30	0.50			



PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-26	3K	7 inch

ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Ratings	Unit
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±10	V
Continuous Drain Current [3], V_{GS}@4.5V	T_A=25°C	I_D	6	A
	T_A=70°C		4.8	
Pulsed Drain Current [1]		I_{DM}	20	A
Power Dissipation	T_A=25°C	P_D	1.14	W
Linear Derating Factor			0.01	W / °C
Operating Junction and Storage Temperature Range		T_j, T_{stg}	-55~150	°C
Thermal Resistance Rating				
Maximum Junction to Ambient [3] Max.		$R_{\theta JA}$	110	°C / W

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

Parameter		Symbol	Min.	Typ.	Max.	Unit	Teat Conditions
Static							
Drain-Source Breakdown Voltage		BV_{DSS}	20	-	-	V	V_{GS}=0, I_D=250uA
Breakdown Voltage Temperature Coefficient		$\triangle BV_{DS}/\triangle T_j$	-	0.03	-	V/°C	Reference to 25°C, I_D=1mA
Gate-Threshold Voltage		$V_{GS(th)}$	0.5	-	1.5	V	V_{DS}=V_{GS}, I_D=250uA
Gate-Body Leakage Current		I_{GSS}	-	-	±100	nA	V_{GS}=±10V
Drain-Source Leakage Current	T_J=25°C	I_{DSS}	-	-	1	uA	V_{DS}=16V, V_{GS}=0
	T_J=70°C		-	-	25		V_{DS}=16V, V_{GS}=0
Drain-Source On-Resistance [2]		$R_{DS(ON)}$	-	-	28	mΩ	V_{GS}=4.5V, I_D=6A
			-	-	38		V_{GS}=2.5V, I_D=5.2A
Forward Transconductance		g_{fs}	-	20	-	S	V_{DS}=10V, I_D=6A
Dynamic							
Total Gate Charge[2]		Q_g	-	23	-	nC	V_{DS}=20V, V_{GS}=5V, I_D=6A
Gate-Source Charge		Q_{gs}	-	4.5	-		
Gate-Drain (“Miller”) Charge		Q_{gd}	-	7	-		
Turn-on Delay Time[2]		$T_{d(on)}$	-	30	-	nS	V_{DS}=10V, V_{GS}=5V, R_G=6Ω, R_D=10Ω, I_D=1A
Rise Time		T_r	-	70	-		
Turn-off Delay Time		$T_{d(off)}$	-	40	-		
Fall Time		T_f	-	65	-		
Input Capacitance		C_{iss}	-	1035	-	pF	V_{GS}=0V V_{DS}= 20V, f=1.0MHz
Output Capacitance		C_{oss}	-	320	-		
Reverse Transfer Capacitance		C_{rss}	-	150	-		
Source-Drain Diode							
Diode Forward Voltage [2]		V_{SD}	-	-	1.2	V	I_S=1.7A, V_{GS}=0V

Notes:
1. Pulse width limited by Max. junction temperature.
2. Pulse width≦300us, duty cycle ≦2%
3. Surface mounted on 1 in^2 copper pad of FR4 board, t≦5sec; 180°C/W when mounted on Min. copper pad.

CHARACTERISTIC CURVES

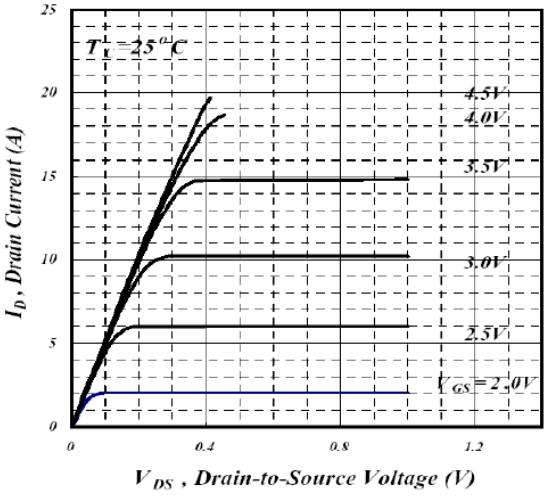


Fig 1. Typical Output Characteristics

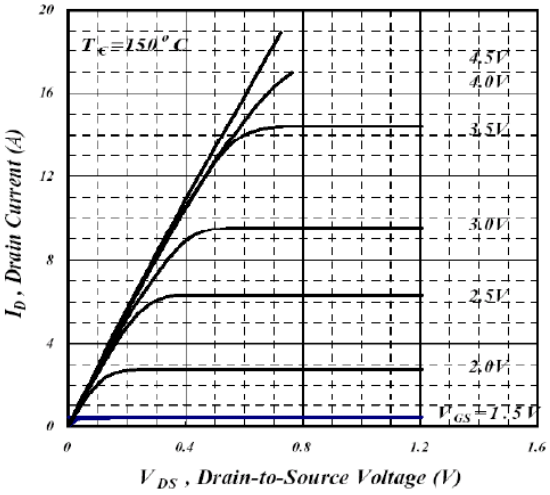
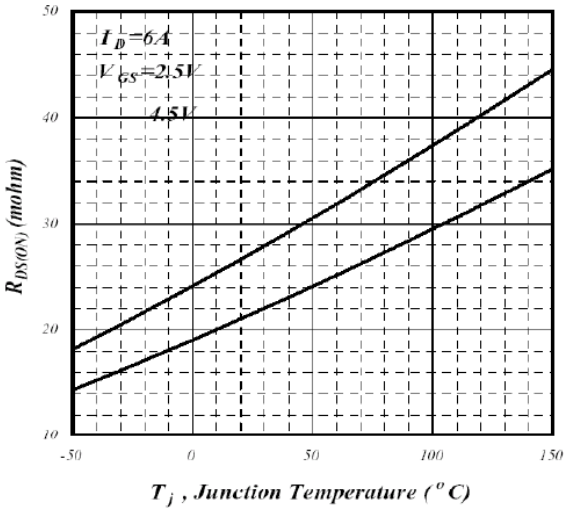
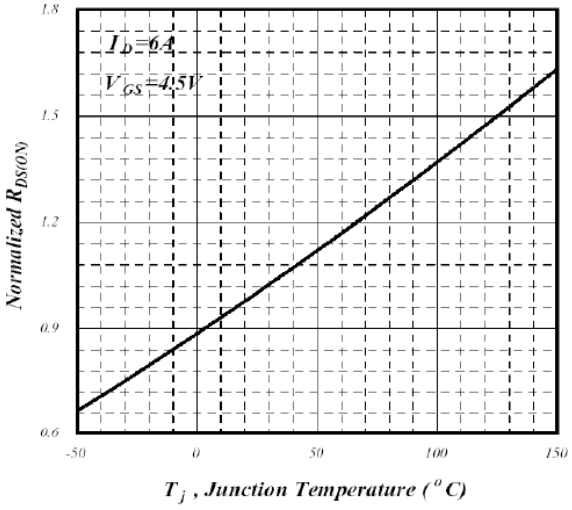


Fig 2. Typical Output Characteristics





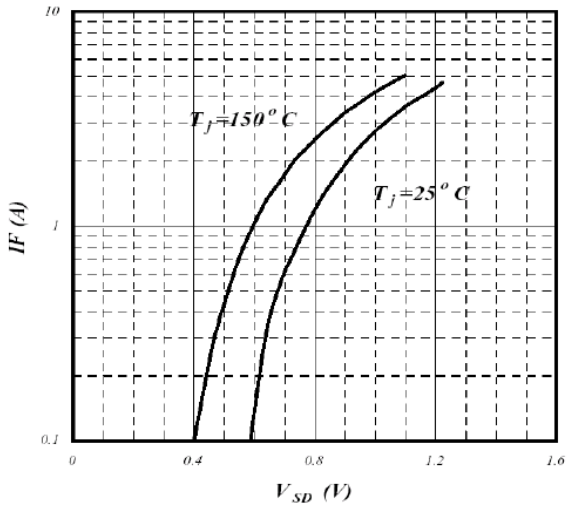


Fig 5. Forward Characteristics of Reverse Diode

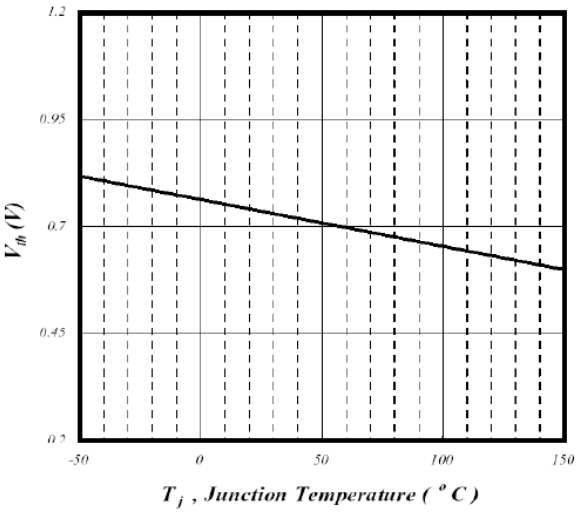


Fig 6. Gate Threshold Voltage vs. Junction Temperature

CHARACTERISTIC CURVES

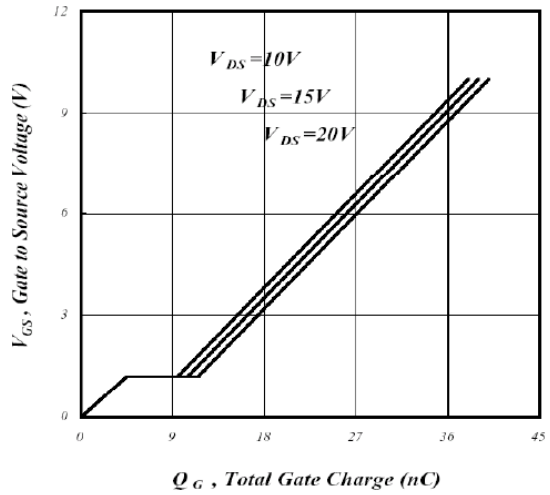


Fig 7. Gate Charge Characteristics

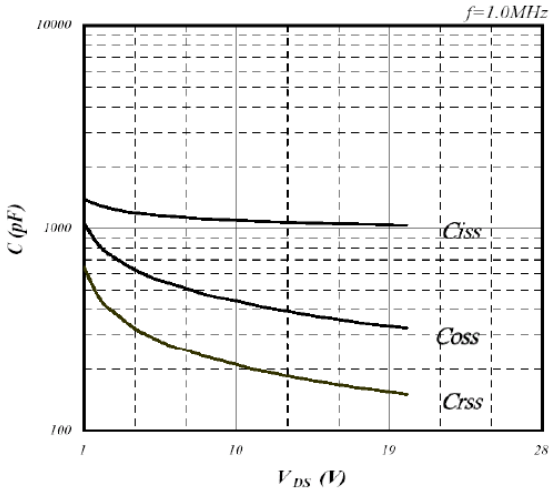


Fig 8. Typical Capacitance Characteristics

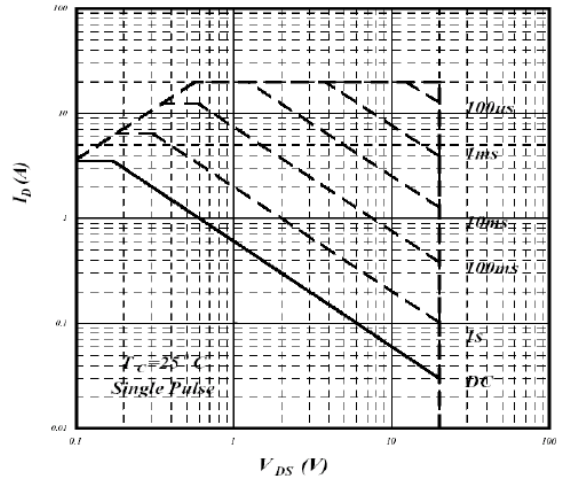


Fig 9. Maximum Safe Operating Area

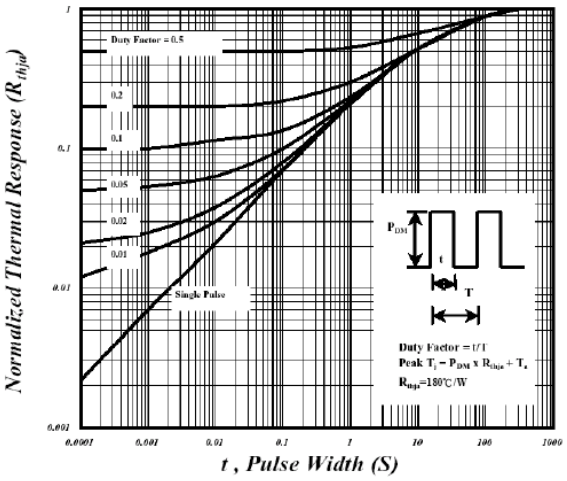


Fig 10. Effective Transient Thermal Impedance

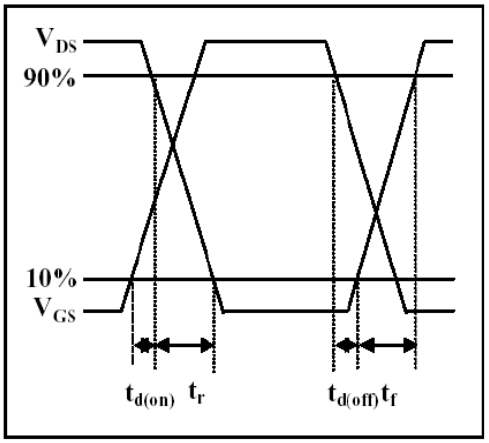


Fig 11. Switching Time Waveform

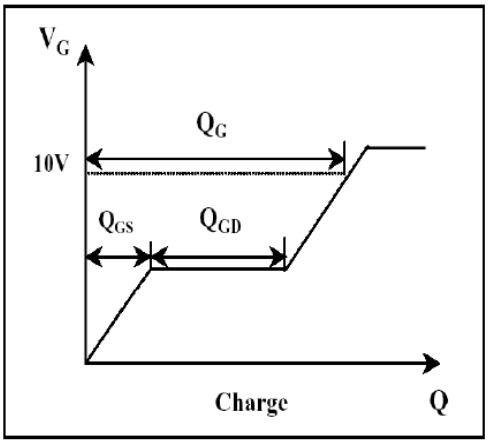


Fig 12. Gate Charge Waveform