

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

DESCRIPTION

SST8205J provides the designers with the best combination of fast switching, low on-resistance and cost-effectiveness.

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

FEATURES

- TrenchFET power MOSFET
- Excellent $R_{DS(ON)}$
- Low gate charge

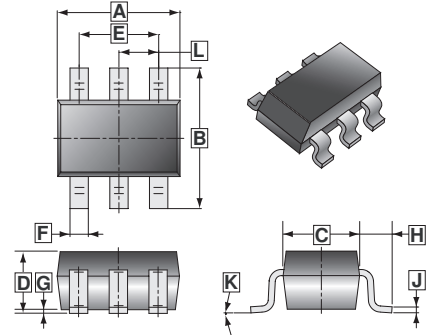
MARKING

L8205
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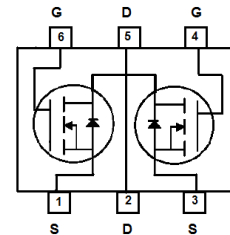
PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-26	3K	7 inch

SOT-26



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			



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	19	V
Gate-Source Voltage	V_{GS}	± 10	V
Continuous Drain Current	I_D	6	A
Pulsed Drain Current ¹	I_{DM}	25	A
Thermal Resistance from Junction to Ambient ²	$R_{\theta JA}$	357	$^\circ\text{C} / \text{W}$
Lead Temperature for Soldering Purposes @ 1/8" from case for 10s	T_L	260	$^\circ\text{C}$
Junction and Storage Temperature Range	T_J, T_{STG}	150, -55~150	$^\circ\text{C}$

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

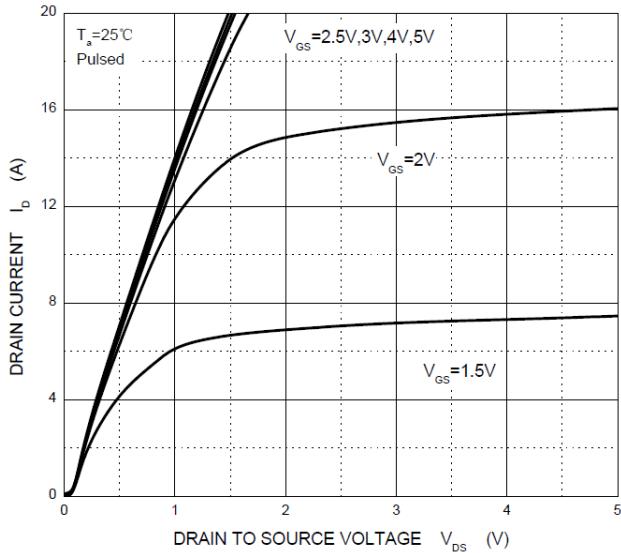
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	19	-	-	V	$V_{GS}=0, I_D=250\mu\text{A}$
Drain-Source Leakage Current	I_{DSS}	-	-	1	μA	$V_{DS}=18\text{V}, V_{GS}=0$
Gate-Body Leakage Current	I_{GSS}	-	-	± 100	nA	$V_{DS}=0, V_{GS}=\pm 10\text{V}$
Gate-Threshold Voltage ³	$V_{GS(th)}$	0.5	-	0.9	V	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$
Drain-Source On-Resistance ³	$R_{DS(ON)}$	-	-	25	m Ω	$V_{GS}=4.5\text{V}, I_D=6\text{A}$
		-	-	32		$V_{GS}=2.5\text{V}, I_D=5\text{A}$
Forward Transconductance ³	g_{fs}	-	10	-	S	$V_{DS}=5\text{V}, I_D=4.5\text{A}$
Diode Forward Voltage ³	V_{SD}	-	-	1.2	V	$I_S=1.25\text{A}, V_{GS}=0$
Switching Characteristics						
Total Gate Charge	Q_g	-	11	-	nC	$V_{DS}=10\text{V}$ $V_{GS}=4.5\text{V}$ $I_D=4\text{A}$
Gate-Source Charge	Q_{gs}	-	2.3	-		
Gate-Drain ("Miller") Charge	Q_{gd}	-	2.5	-		
Turn-on Delay Time	$T_{d(on)}$	-	18	-	nS	$V_{DD}=10\text{V}$ $V_{GS}=4\text{V}$ $R_{GEN}=10\Omega$ $I_D=1\text{A}$
Rise Time	T_r	-	5	-		
Turn-off Delay Time	$T_{d(off)}$	-	43	-		
Fall Time	T_f	-	20	-		
Dynamic Characteristics						
Input Capacitance	C_{iss}	-	800	-	pF	$V_{DS}=8\text{V}$ $V_{GS}=0$ $f=1\text{MHz}$
Output Capacitance	C_{oss}	-	155	-		
Reverse Transfer Capacitance	C_{rss}	-	125	-		

Notes:

1. Repetitive rating : Pulse width is limited by the maximum junction temperature.
2. Surface Mounted on FR4 board, $t \leq 10\text{sec}$.
3. Pulse test : Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

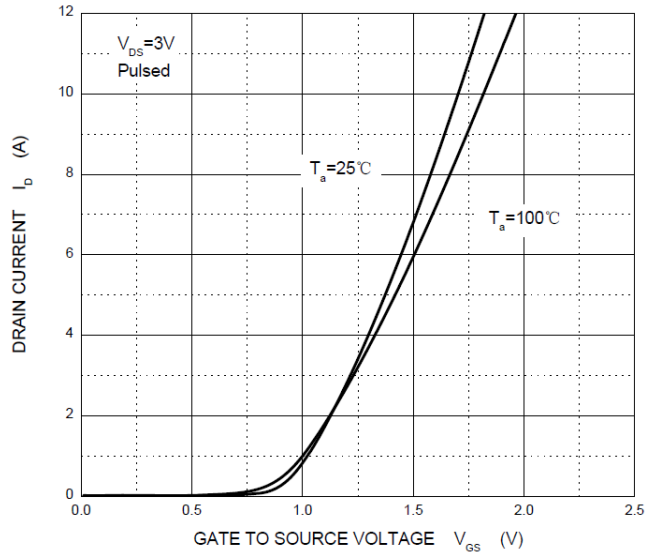
CHARACTERISTIC CURVES

Output Characteristics

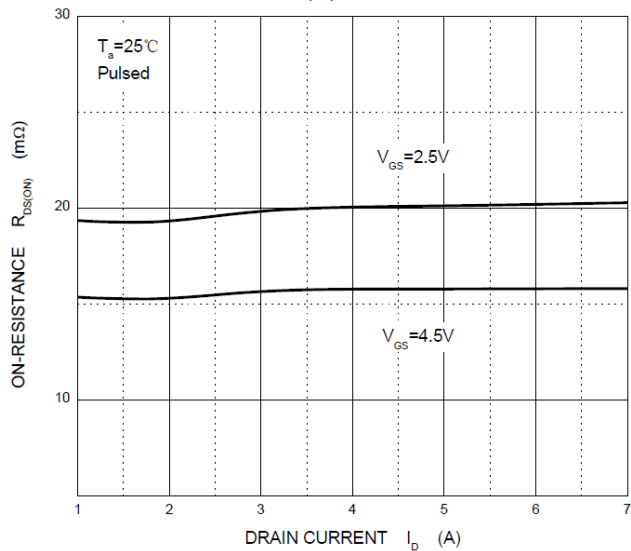


$R_{DS(ON)}$ — I_D

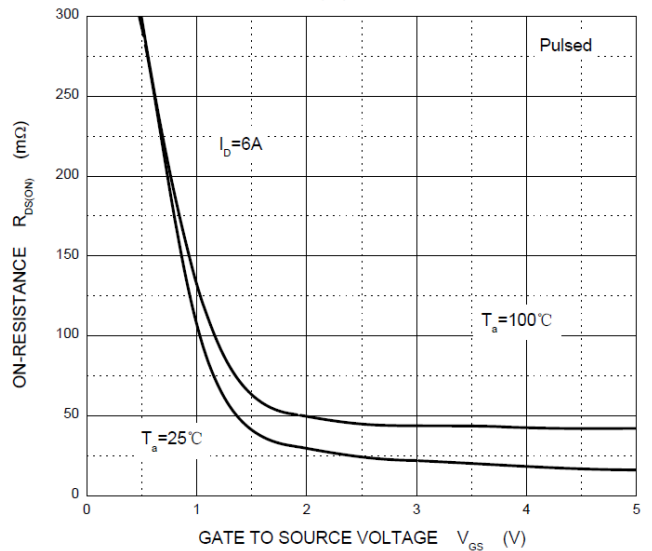
Transfer Characteristics



$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



Threshold Voltage

