

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

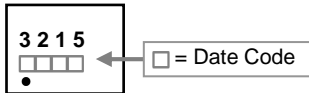
DESCRIPTION

The SST3215 provide the designer with the 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.

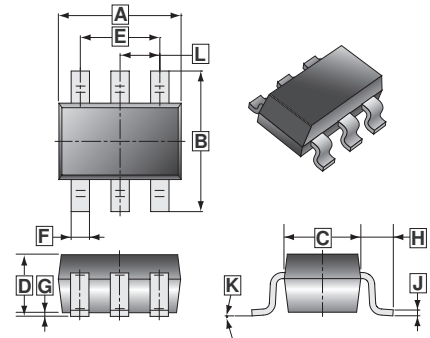
FEATURES

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

MARKING



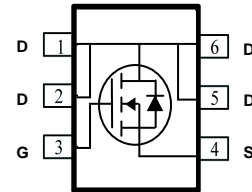
SOT-26



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			

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-26	3K	7 inch



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	$T_C=25^\circ C$	2.2
		$T_C=75^\circ C$	1.8
		$T_A=25^\circ C$	1.7
		$T_A=75^\circ C$	1.4
Pulsed Drain Current ^{2,3}	I_{DM}	8	A
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 Resistance Rating			
Thermal Resistance Junction to Ambient ¹	$R_{\theta JA}$	$t \leq 5sec$	62.5
		Steady State	125
Thermal Resistance Junction to Case ¹	$R_{\theta JC}$	39	$^\circ C / W$

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

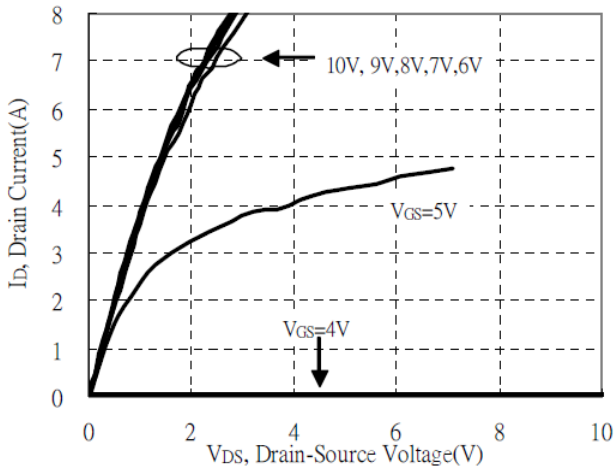
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions	
Static							
Drain-Source Breakdown Voltage	BV_{DSS}	150	-	-	V	$V_{GS}=0, I_D=250\mu\text{A}$	
Gate-Threshold Voltage	$V_{GS(th)}$	2	-	4	V	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	
Gate-Body Leakage Current	I_{GSS}	-	-	± 100	nA	$V_{GS}=\pm 20\text{V}$	
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		
Drain-Source On-Resistance ²	$R_{DS(ON)}$	-	240	315	m Ω	$V_{GS}=10\text{V}, I_D=1.5\text{A}$	
		-	265	345		$V_{GS}=6\text{V}, I_D=1.5\text{A}$	
Forward Transconductance	g_{fs}	-	2.5	-	S	$V_{DS}=15\text{V}, I_D=1\text{A}$	
Dynamic							
Total Gate Charge ²	Q_g	-	7.5	-	nC	$V_{DS}=75\text{V}, V_{GS}=10\text{V}, I_D=1.7\text{A}$	
Gate-Source Charge	Q_{gs}	-	1.5	-			
Gate-Drain ("Miller") Charge	Q_{gd}	-	2	-			
Turn-on Delay Time ²	$T_{d(on)}$	-	12	-	nS	$V_{DS}=75\text{V}, V_{GS}=10\text{V}, R_G=6\Omega, I_D=1\text{A}$	
Rise Time	T_r	-	16	-			
Turn-off Delay Time	$T_{d(off)}$	-	32	-			
Fall Time	T_f	-	17	-			
Input Capacitance	C_{iss}	-	290	-	pF	$V_{GS}=0\text{V}, V_{DS}=30\text{V}, f=1.0\text{MHz}$	
Output Capacitance	C_{oss}	-	30	-			
Reverse Transfer Capacitance	C_{rss}	-	12	-			
Source-Drain Diode							
Diode Forward Voltage ²	V_{SD}	-	-	1.2	V	$I_S=1.7\text{A}, V_{GS}=0\text{V}$	
Continuous Source Current ^{1,2}	I_S	-	-	1.7	A	$V_G=V_D=0\text{V}, \text{Force Current}$	
Pulsed Source Current ^{2,3}	I_{SM}	-	-	5			
Reverse Recovery Time	T_{RR}	-	44.5	-	nS	$I_F=1.7\text{A}, di/dt=100\text{A}/\mu\text{s}, T_J=25^\circ\text{C}$	
Reverse Recovery Charge	Q_{RR}	-	15.8	-	nC		

Notes:

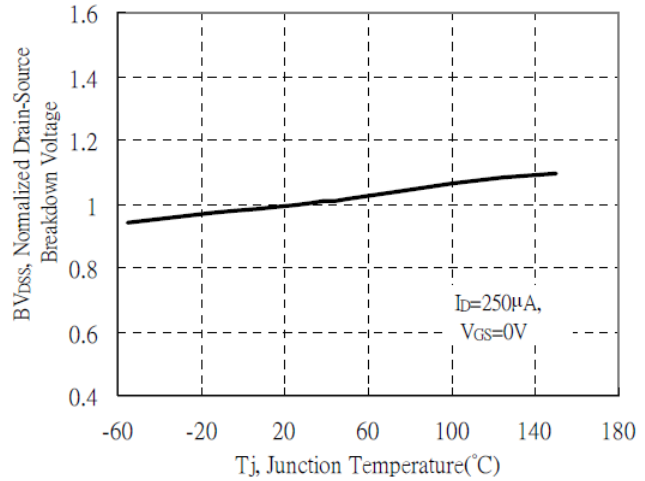
- Surface mounted on 1 inch² copper pad of FR4 board; 156°C/W when mounted on M in. copper pad.
- The data tested by pulsed, pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$
- The power dissipation is limited by 150°C junction temperature.

RATINGS AND CHARACTERISTIC CURVES

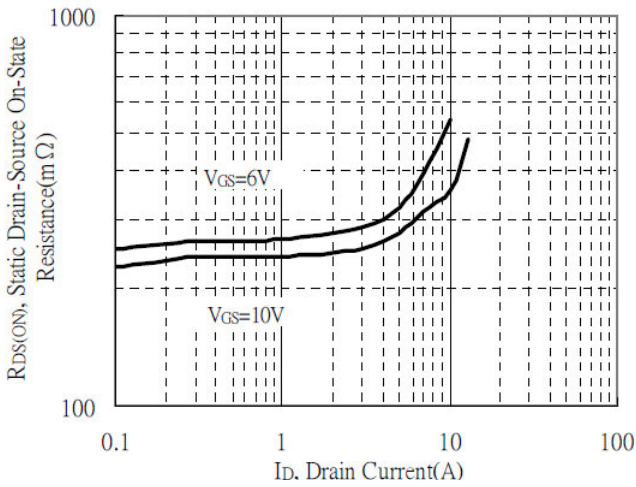
Typical Output Characteristics



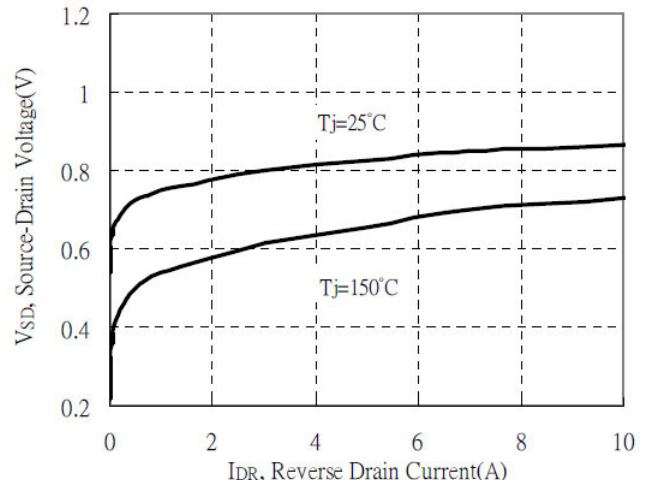
Brekdown Voltage vs Ambient Temperature



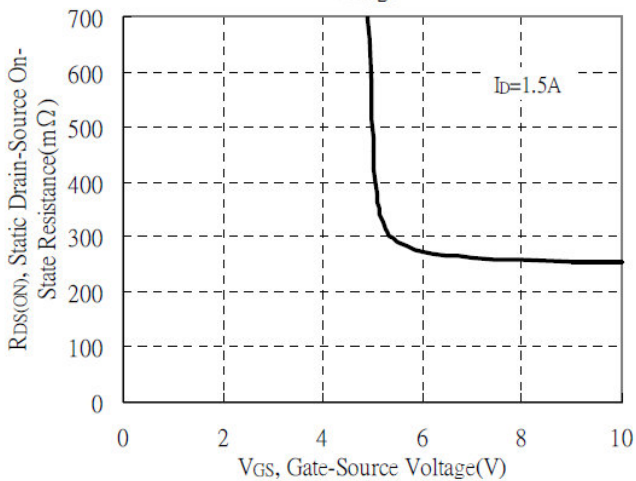
Static Drain-Source On-State resistance vs Drain Current



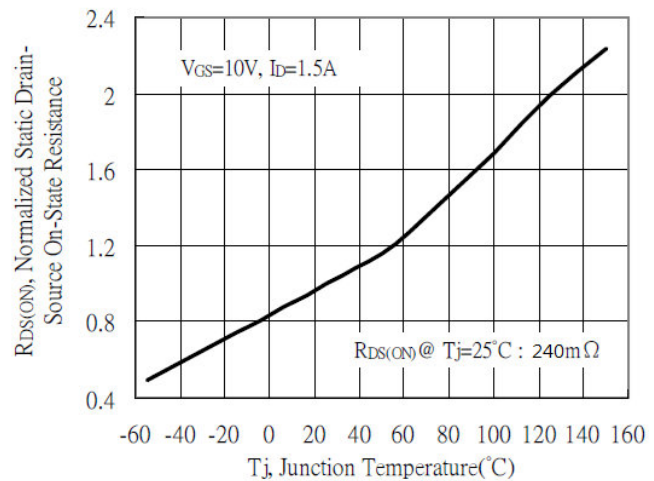
Reverse Drain Current vs Source-Drain Voltage



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

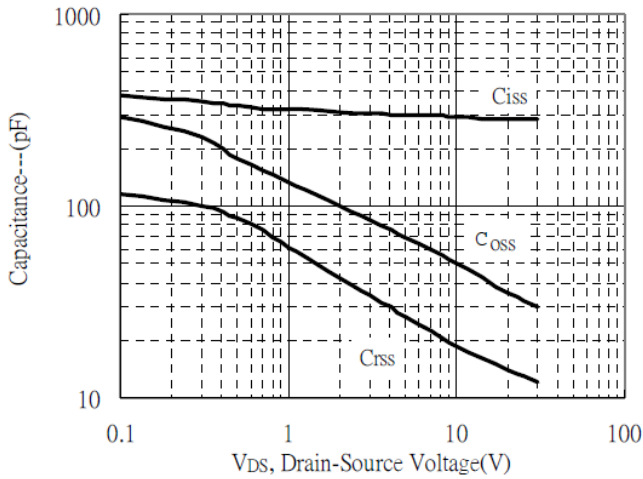


Drain-Source On-State Resistance vs Junction Temperature

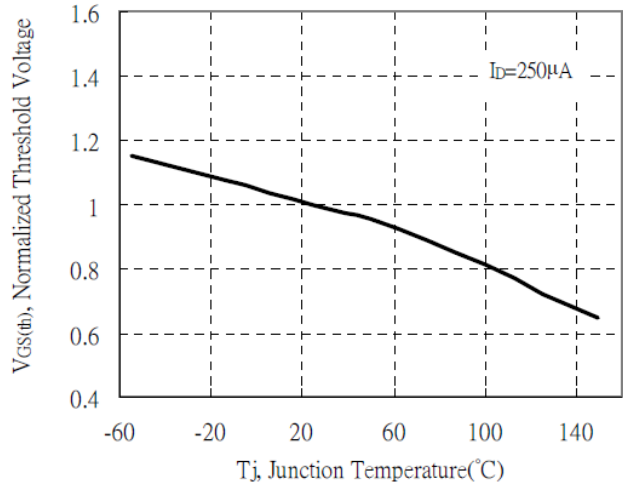


RATINGS AND CHARACTERISTIC CURVES

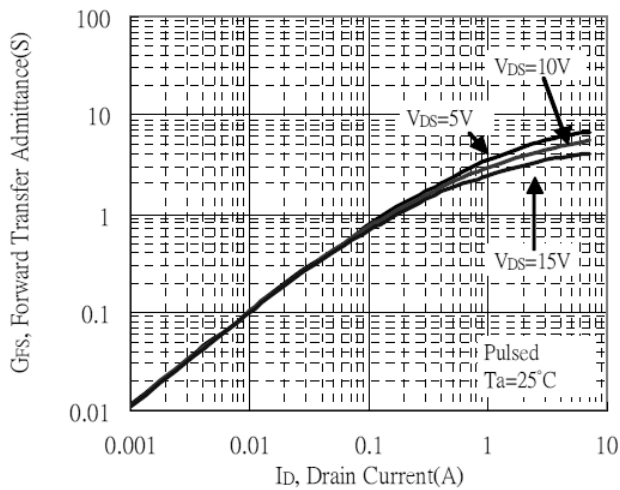
Capacitance vs Drain-to-Source Voltage



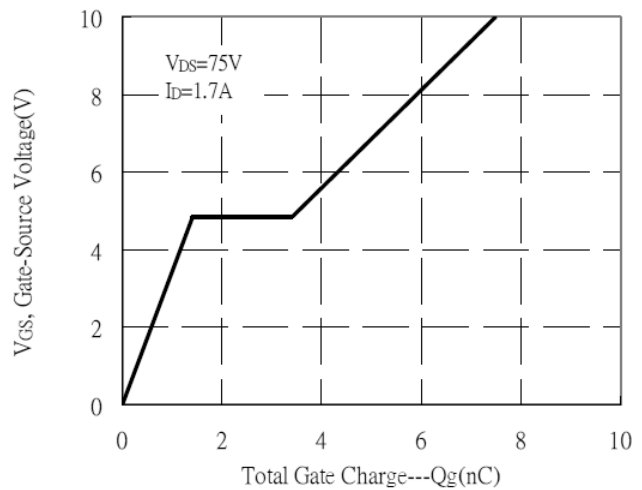
Threshold Voltage vs Junction Temperature



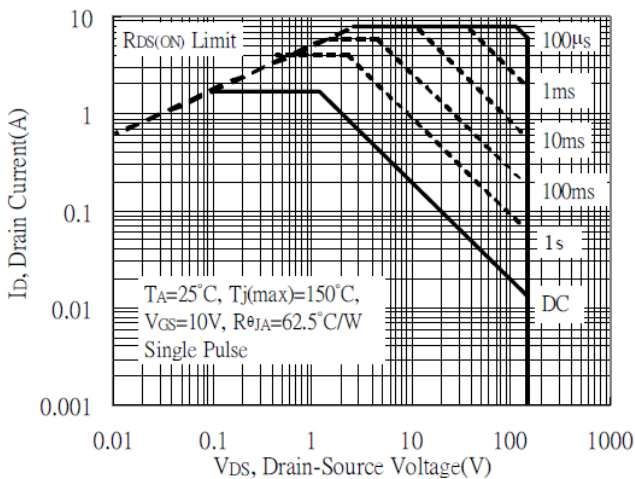
Forward Transfer Admittance vs Drain Current



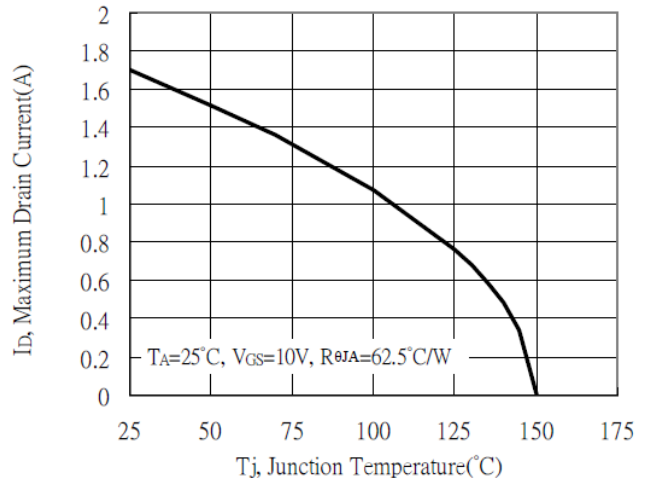
Gate Charge Characteristics



Maximum Safe Operating Area

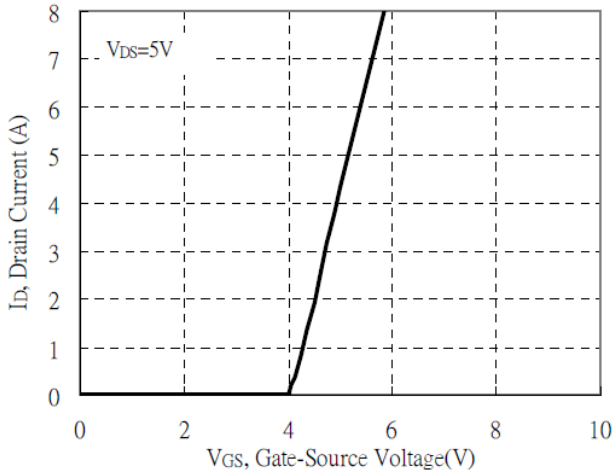


Maximum Drain Current vs Junction Temperature

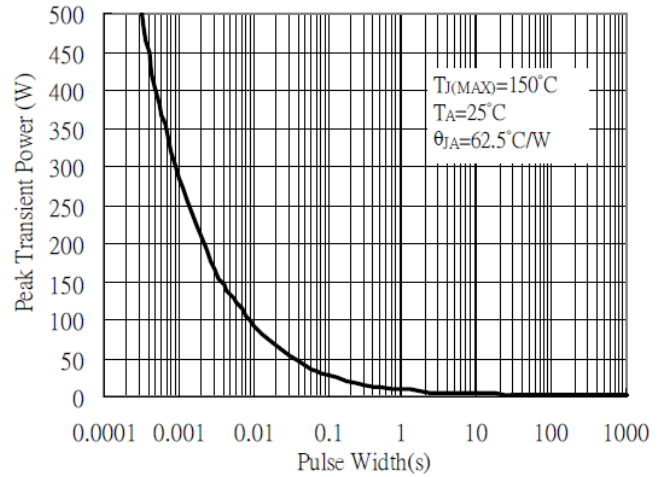


RATINGS AND CHARACTERISTIC CURVES

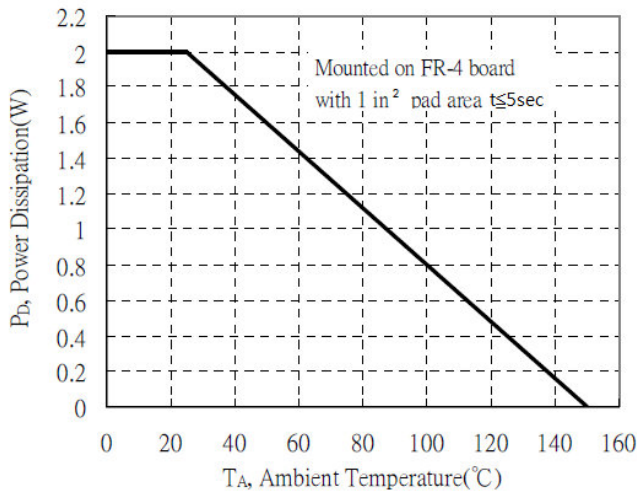
Typical Transfer Characteristics



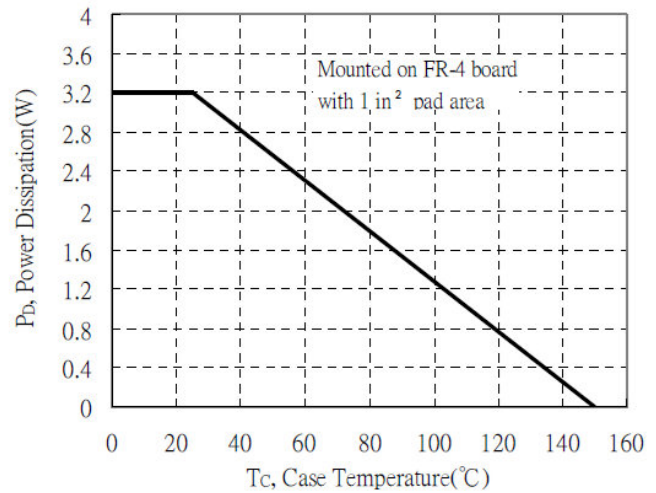
Single Pulse Maximum Power Dissipation



Power Derating Curve



Power Derating Curve



Transient Thermal Response Curves

