Elektronische Bauelemente

SST3215

2.2A , 150V , $R_{DS(ON)}$ 315mΩ
N-Ch Enhancement Mode Power MOSFET

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

DESCRIPTION

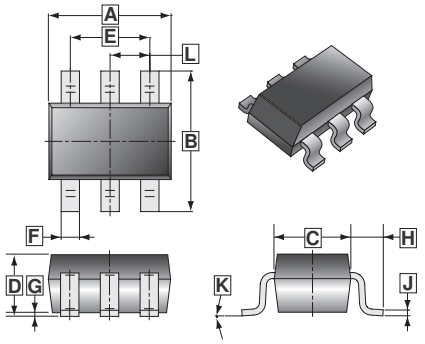
The SST3215 provide the designer with the best combination of fast switching, low on-resistance and cost-effectiveness.

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

FEATURES

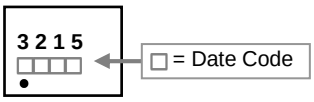
- Low on-resistance
- Capable of 2.5V gate drive
- Low drive current

SOT-26



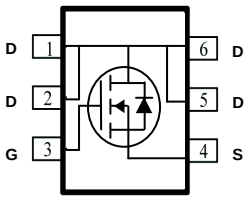
REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	0	0.10
B	2.60	3.00	H	0.60 REF.	
C	1.40	1.80	J	0.12 REF.	
D	1.30 MAX.		K	0°	10°
E	1.90 REF.		L	0.95 REF.	
F	0.30	0.50			

MARKING



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]	T_C=25℃	I_D	2.2	A
	T_C=75℃		1.8	
	T_A=25℃		1.7	
	T_A=75℃		1.4	
Pulsed Drain Current [2, 3]		I_{DM}	8	A
Power Dissipation	T_C =25℃	P_D	3.2	W
	T_A=25℃		2	
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55~150	℃
Thermal Resistance Rating				
Thermal Resistance Junction to Ambient [1]	t≦5sec	$R_{\Theta JA}$	62.5	℃ / W
	Steady State		125	
Thermal Resistance Junction to Case [1]		$R_{\Theta JC}$	39	

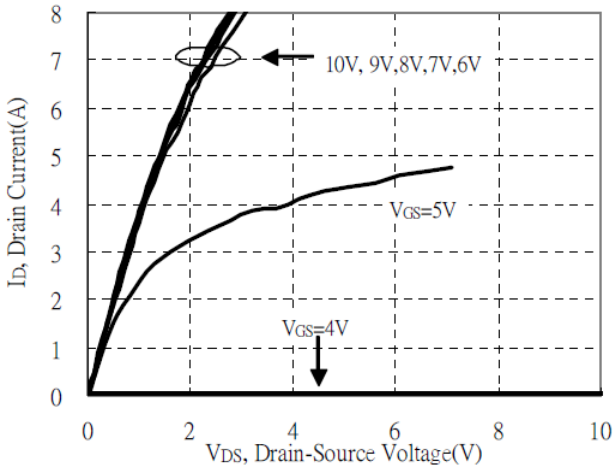
ELECTRICAL CHARACTERISTICS (T_J =25°C unless otherwise specified)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Teat Conditions
Static							
Drain-Source Breakdown Voltage		BV_{DSS}	150	-	-	V	V_{GS}=0, I_D=250μA
Gate-Threshold Voltage		$V_{GS(th)}$	2	-	4	V	V_{DS}=V_{GS}, I_D=250μA
Gate-Body Leakage Current		I_{GSS}	-	-	±100	nA	V_{GS}=±20V
Drain-Source Leakage Current	T_J=25°C	I_{DSS}	-	-	1	μA	V_{DS}=120V, V_{GS}=0
	T_J=55°C		-	-	10		
Drain-Source On-Resistance [2]		$R_{DS(ON)}$	-	240	315	mΩ	V_{GS}=10V, I_D=1.5A
				265	345		V_{GS}=6V, I_D=1.5A
Forward Transconductance		g_{fs}	-	2.5	-	S	V_{DS}=15V, I_D=1A
Dynamic							
Total Gate Charge [2]		Q_g	-	7.5	-	nC	V_{DS}=75V, V_{GS}=10V, I_D=1.7A
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}=75V, V_{GS}=10V, R_G=6Ω, I_D=1A
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}=0V V_{DS}=30V, f=1.0MHz
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=1.7A, V_{GS}=0V
Continuous Source Current [1, 2]		I_S	-	-	1.7	A	V_G=V_D=0V, Force Current
Pulsed Source Current [2, 3]		I_{SM}	-	-	5		
Reverse Recovery Time		T_{RR}	-	44.5	-	nS	I_F=1.7A, dI/dt=100A/μs, T_J=25℃
Reverse Recovery Charge		Q_{RR}	-	15.8	-	nC	

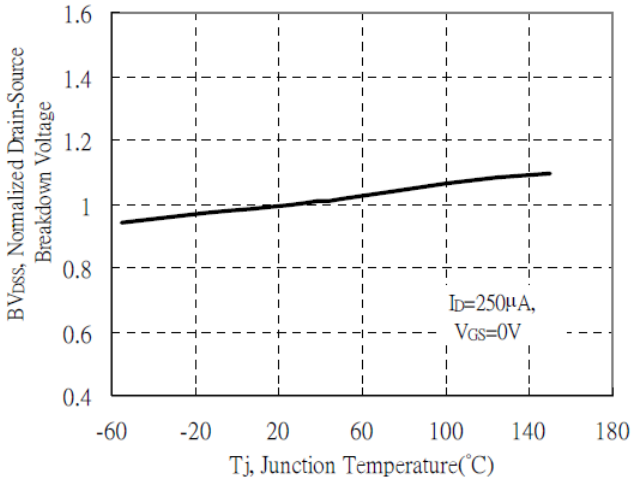
Notes:
1. Surface mounted on 1 inch^2 copper pad of FR4 board; 156℃/W when mounted on M in. copper pad.
2. The data tested by pulsed, pulse width≦300μs, duty cycle ≦2%
3. The power dissipation is limited by 150℃ junct ion temperature.

RATINGS AND CHARACTERISTIC CURVES

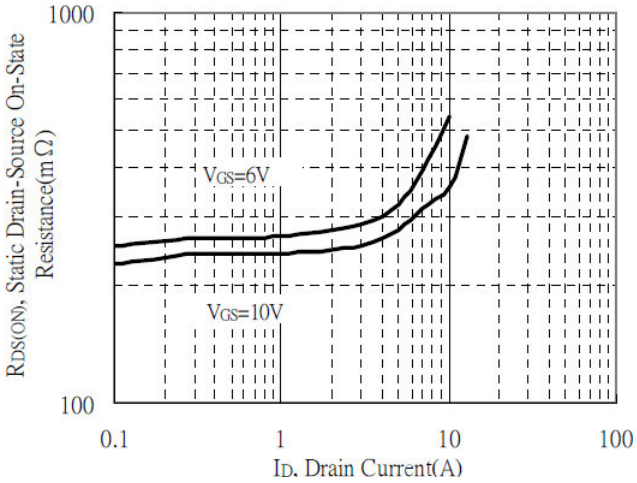
Typical Output Characteristics



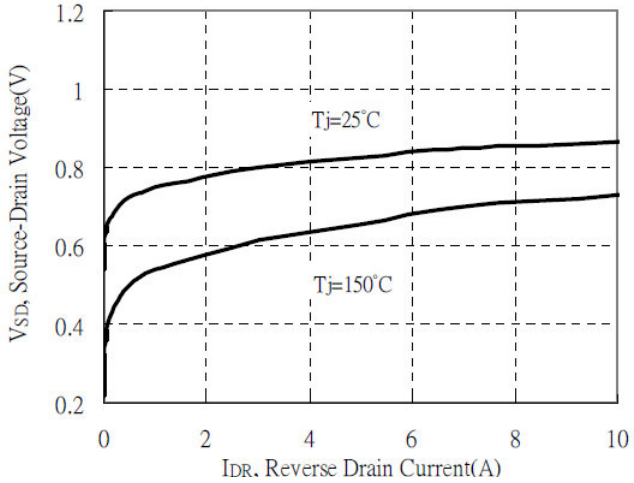
Brekdown Voltage vs Ambient Temperature



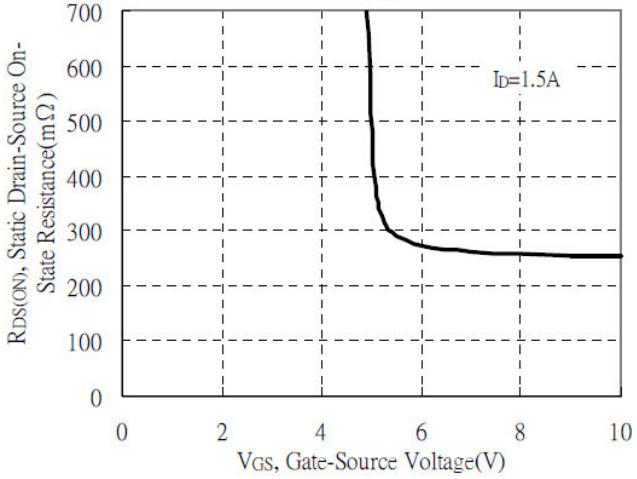
Static Drain-Source On-State resistance vs Drain Current



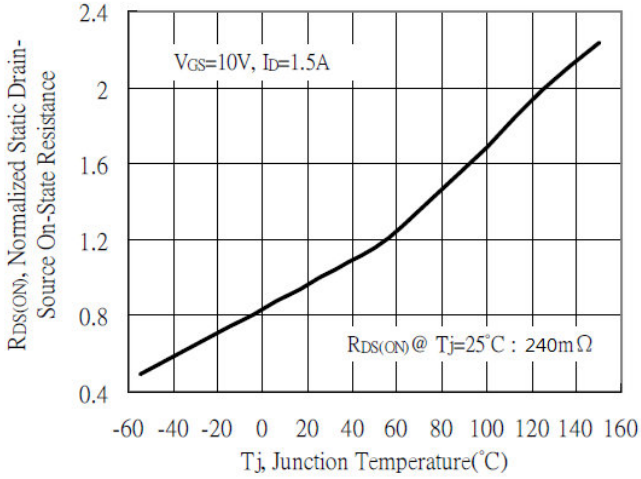
Reverse Drain Current vs Source-Drain Voltage



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

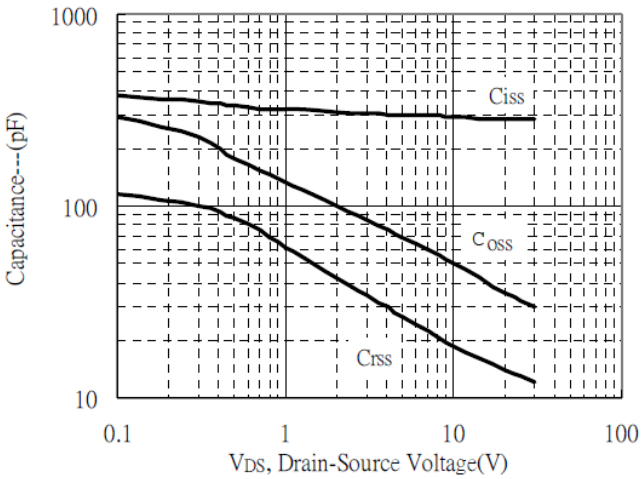


Drain-Source On-State Resistance vs Junction Tempearture

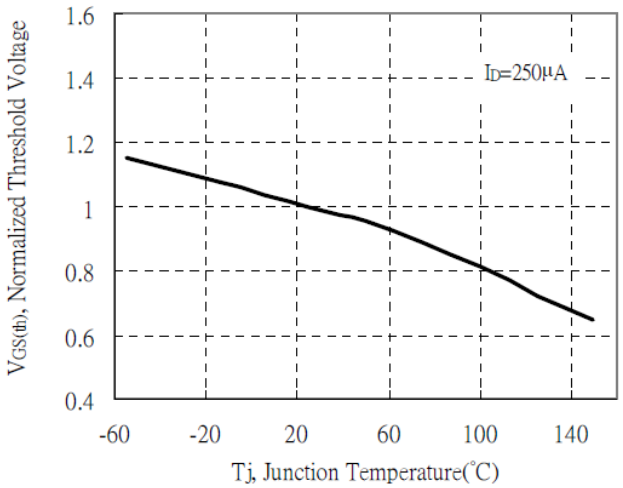


RATINGS AND CHARACTERISTIC CURVES

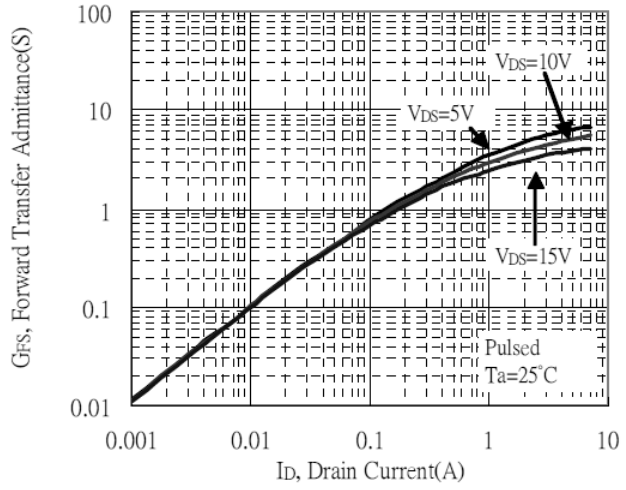
Capacitance vs Drain-to-Source Voltage



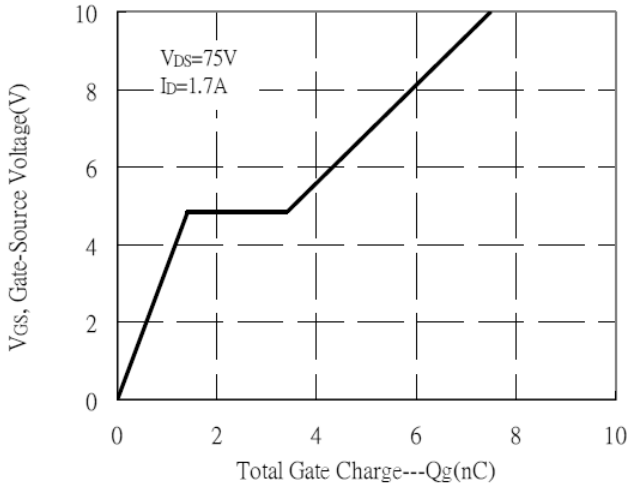
Threshold Voltage vs Junction Tempearture



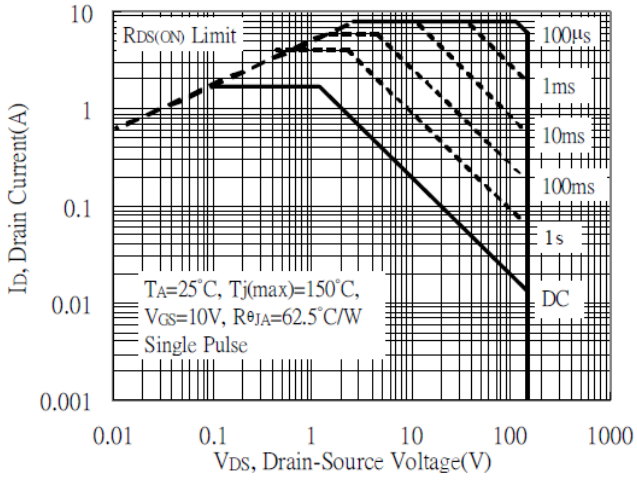
Forward Transfer Admittance vs Drain Current



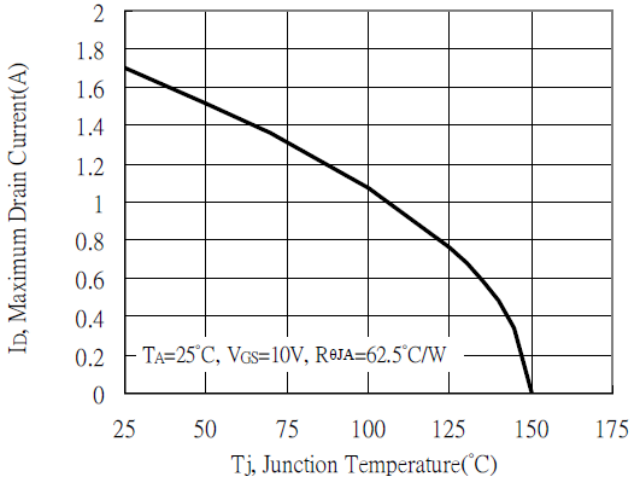
Gate Charge Characteristics



Maximum Safe Operating Area

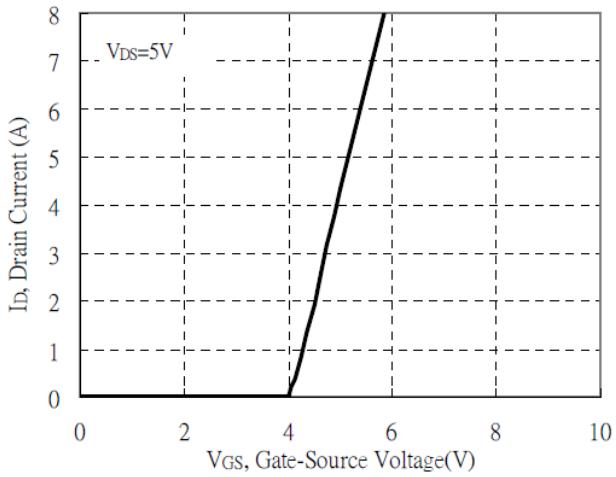


Maximum Drain Current vs Junction Temperature

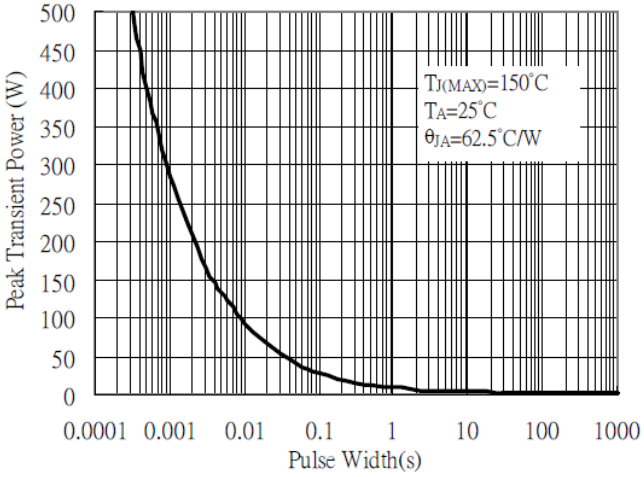


RATINGS AND CHARACTERISTIC CURVES

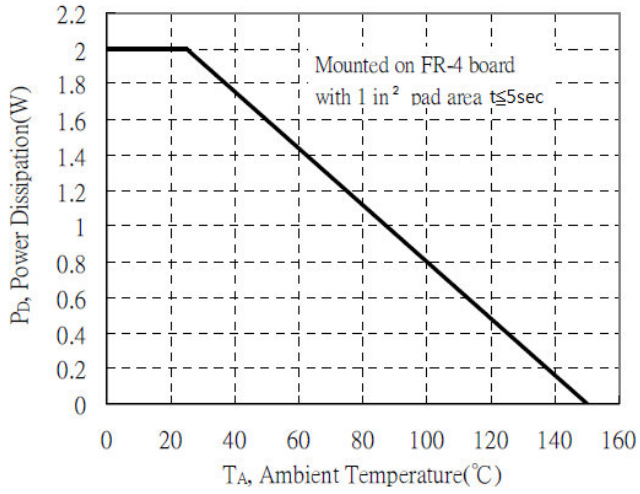
Typical Transfer Characteristics



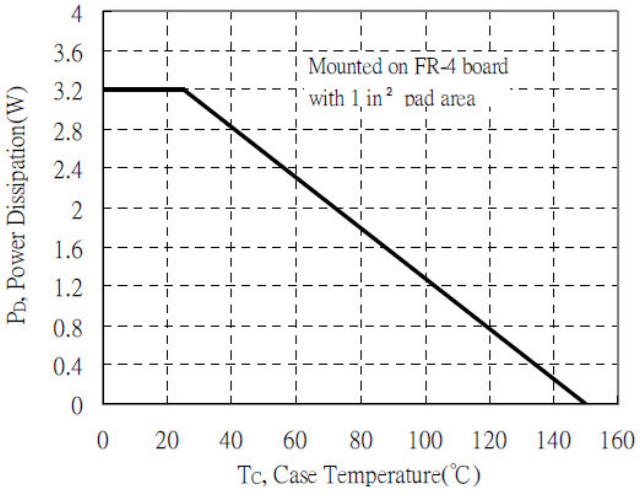
Single Pulse Maximum Power Dissipation



Power Derating Curve



Power Derating Curve



Transient Thermal Response Curves