Elektronische Bauelemente

SST3215B

2.2A, 150V, $R_{DS(ON)}$ 320mΩ
N-Ch Enhancement Mode Power MOSFET

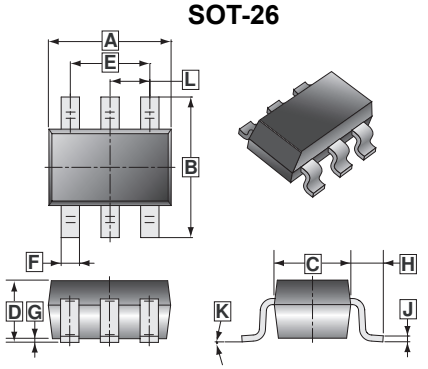
RoHS Compliant Product
A suffix of "-C" specifies halogen and lead-free

DESCRIPTION

SST3215B provides 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.

SOT-26

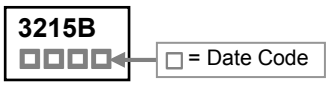


REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	0	0.10
B	2.60	3.00	H	0.60 REF.	
C	1.40	1.80	J	0.12 REF.	
D	1.30 MAX.		K	0°	10°
E	1.90 REF.		L	0.95 REF.	
F	0.30	0.50			

FEATURES

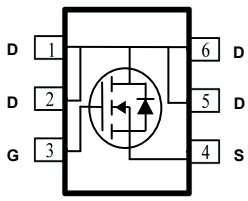
- 150V/2.2A
  $R_{DS(ON)} \leqq 320m\Omega$ @ V_{GS}=10V
  $R_{DS(ON)} \leqq 380m\Omega$ @ V_{GS}=4.5V
- Reliable and rugged
- Green device available

MARKING



PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-26	3K	7 inch



ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Rating	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°C	I_D	2.2	A
	T_C=75°C		1.8	
	T_A=25°C		1.7	
	T_A=75°C		1.4	
Pulsed Drain Current [2]		I_{DM}	8	A
Power Dissipation	T_C =25°C	P_D	3.2	W
	T_A=25°C		2	
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55~150	°C
Thermal Resistance Rating				
Thermal Resistance Junction to Ambient [1]	t≦5sec	$R_{\theta JA}$	62.5	°C / W
	Steady State		125	
Thermal Resistance Junction to Ambient			156	
Thermal Resistance Junction to Case [1]		$R_{\theta JC}$	39	

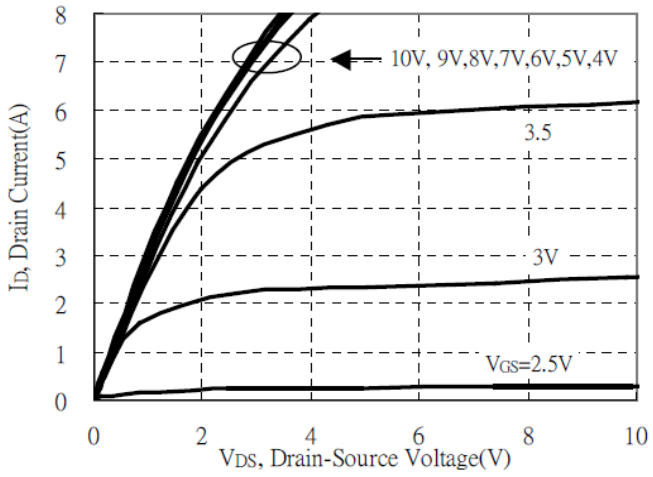
ELECTRICAL CHARACTERISTICS (T_J=25°C unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Drain-Source Breakdown Voltage	BV_{DSS}	150	-	-	V	V_{GS}=0, I_D=250μA
Gate-Threshold Voltage	$V_{GS(th)}$	1	-	2.5	V	V_{DS}=V_{GS}, I_D=250μA
Gate-Body Leakage Current	I_{GSS}	-	-	±100	nA	V_{GS}=±20V
Drain-Source Leakage Current	I_{DSS}	-	-	1	μA	V_{DS}=120V, V_{GS}=0, T_J=25°C
		-	-	10		V_{DS}=120V, V_{GS}=0, T_J=55°C
Drain-Source On-Resistance [3]	$R_{DS(ON)}$	-	260	320	mΩ	V_{GS}=10V, I_D=1.5A
			290	380		V_{GS}=4.5V, I_D=1.5A
Forward Transfer conductance	g_{fs}	-	3.3	-	S	V_{DS}=15V, I_D=1A
Total Gate Charge	Q_g	-	8.1	-	nC	V_{DS}=75V V_{GS}=10V I_D=1.7A
Gate-Source Charge	Q_{gs}	-	1	-		
Gate-Drain (“Miller”)Charge	Q_{gd}	-	1.9	-		
Turn-on Delay Time	$T_{d(on)}$	-	5.2	-	nS	V_{DS}=75V V_{GS}=10V R_G=6Ω I_D=1A
Rise Time	T_r	-	16.2	-		
Turn-off Delay Time	$T_{d(off)}$	-	20.8	-		
Fall Time	T_f	-	15.6	-		
Input Capacitance	C_{iss}	-	298	-	pF	V_{GS}=0V V_{DS}=30V f=1MHz
Output Capacitance	C_{oss}	-	32	-		
Reverse Transfer Capacitance	C_{rss}	-	19	-		
Source-Drain Diode Characteristic						
Diode Forward Voltage [3]	V_{SD}	-	-	1.2	V	I_S=1.7A, V_{GS}=0
Continuous Source Current [1]	I_S	-	-	1.7	A	
Pulsed Source Current [2]	I_{SM}	-	-	5		
Reverse Recovery Time	T_{RR}	-	45	-	nS	I_F=1.7A, dI/dt=100A/μs, T_J=25°C
Reverse Recovery Charge	Q_{RR}	-	16	-	nC	

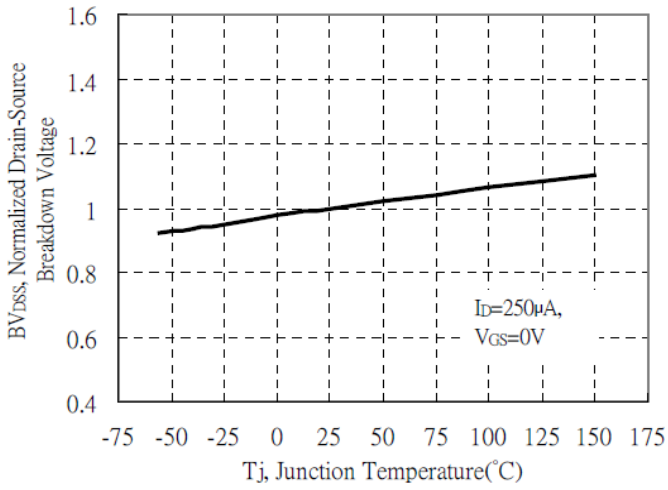
Notes:
1. Surface mounted on 1 $inch^2$ FR4 board with 2 oz copper.
2. The power dissipation is limited by 150°C junction temperature.
3. The data is tested by pulse: Pulse width≦300μs, duty cycle ≦2%.

CHARACTERISTIC CURVES

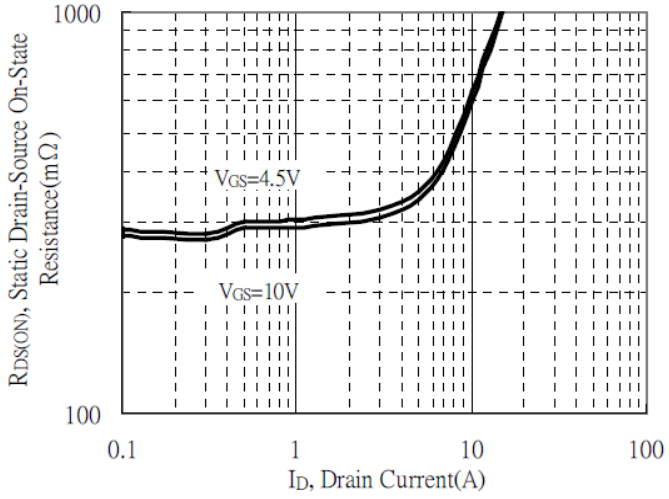
Typical Output Characteristics



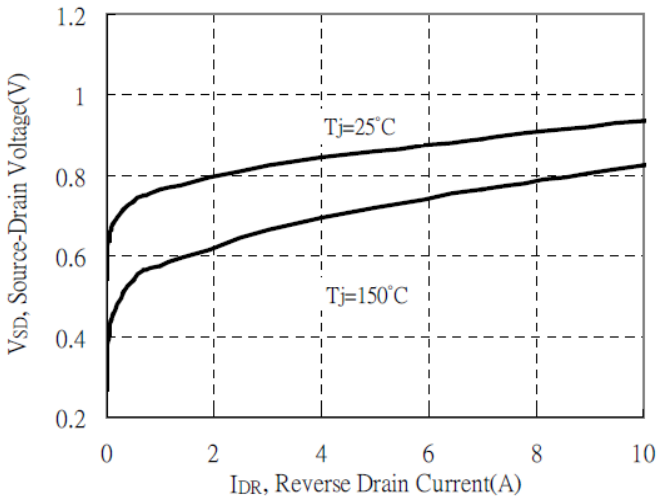
Brekdown Voltage vs Ambient Temperature



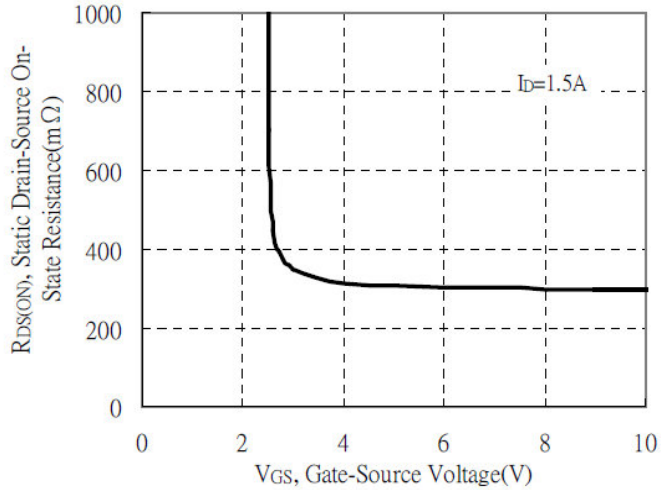
Static Drain-Source On-State resistance vs Drain Current



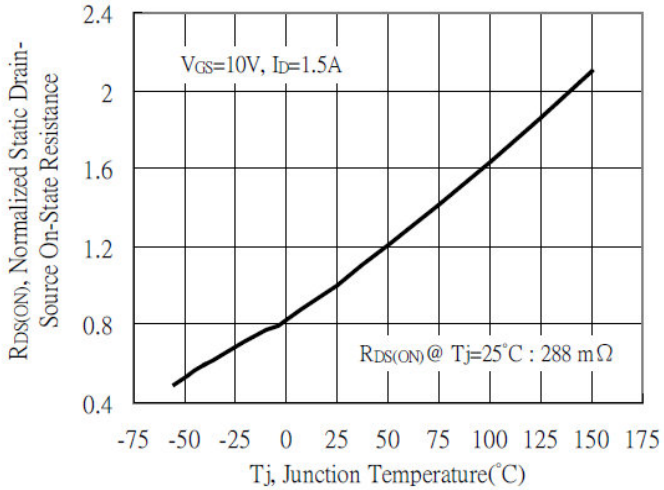
Reverse Drain Current vs Source-Drain Voltage



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

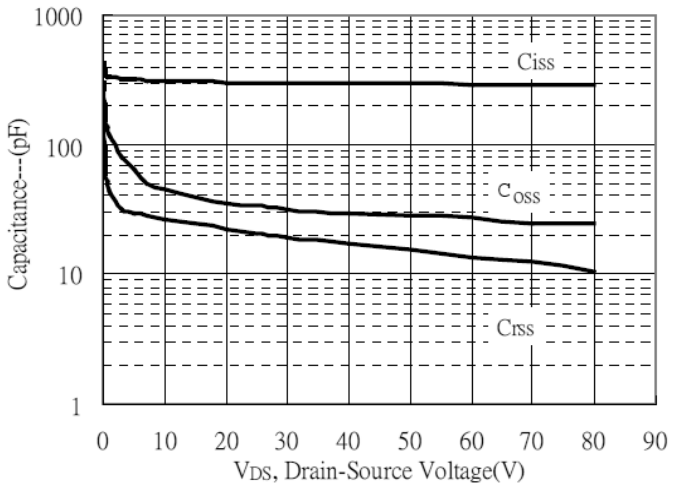


Drain-Source On-State Resistance vs Junction Tempearture

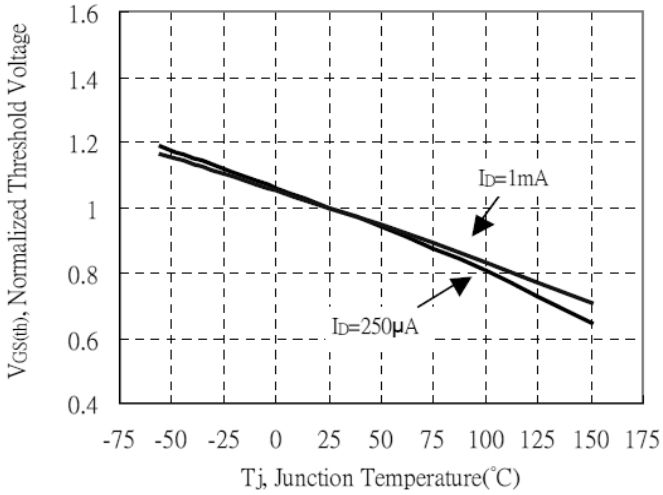


CHARACTERISTIC CURVES

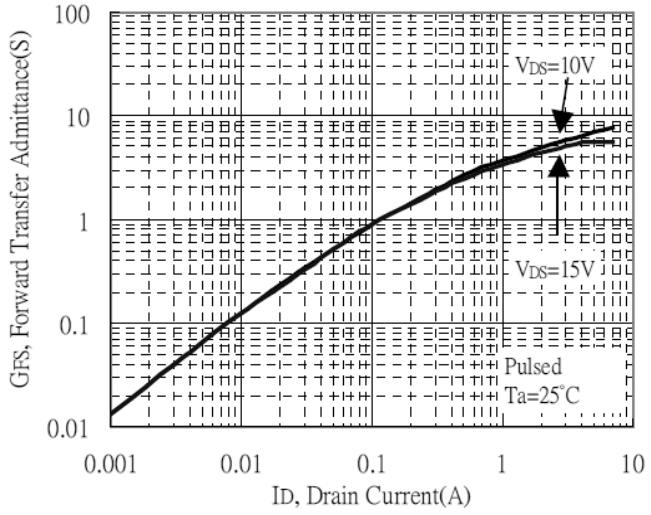
Capacitance vs Drain-to-Source Voltage



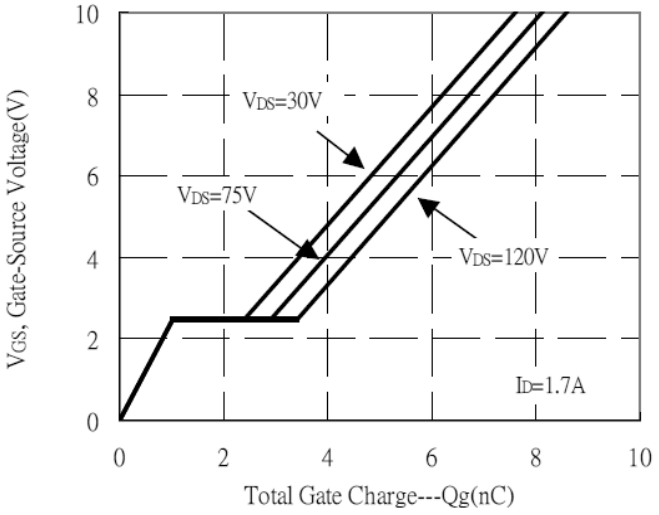
Threshold Voltage vs Junction Tempearture



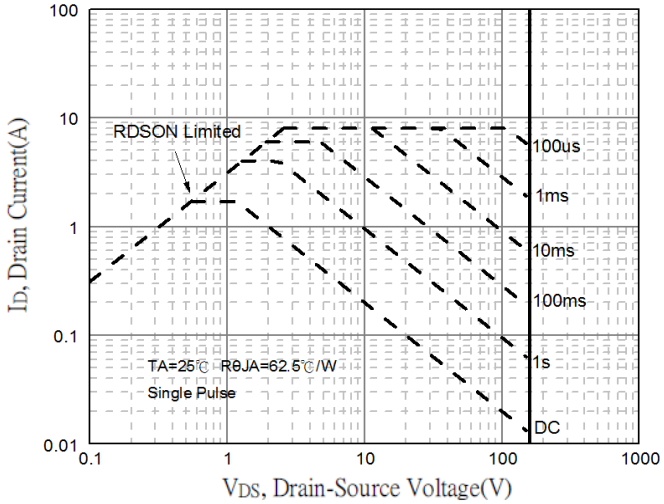
Forward Transfer Admittance vs Drain Current



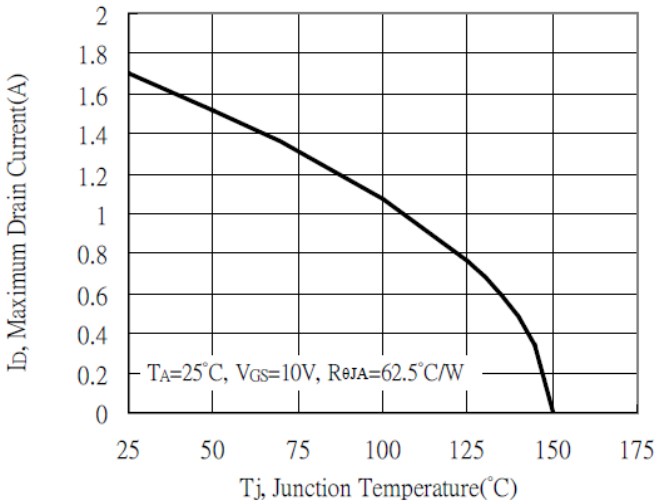
Gate Charge Characteristics



Maximum Safe Operating Area

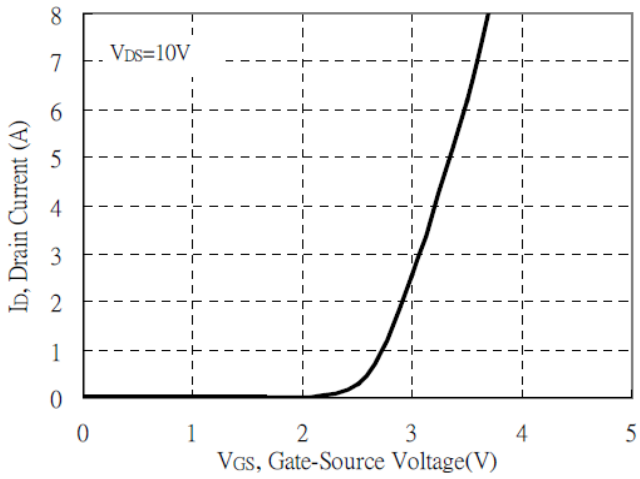


Maximum Drain Current vs Junction Temperature

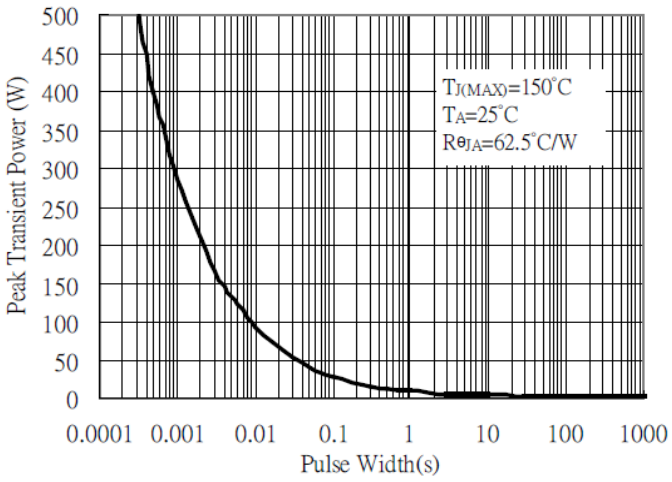


CHARACTERISTIC CURVES

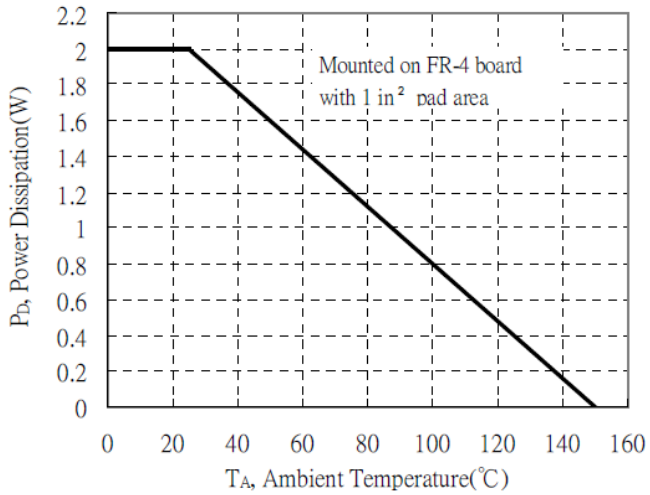
Typical Transfer Characteristics



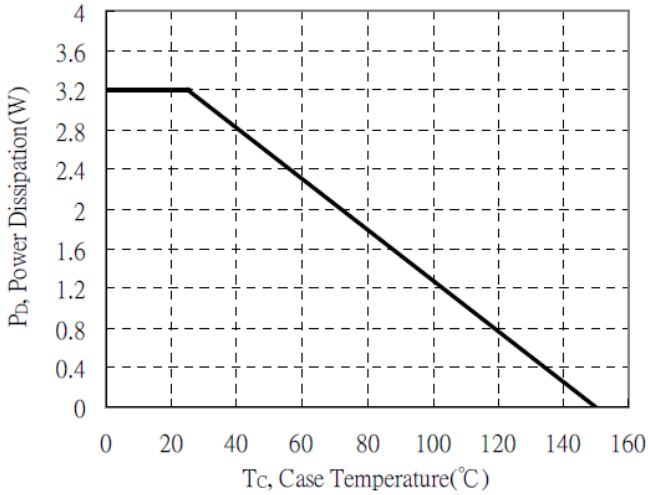
Single Pulse Maximum Power Dissipation



Power Derating Curve



Power Derating Curve



Transient Thermal Response Curves