/ Absolute Maximum Ratings(T_a=25)

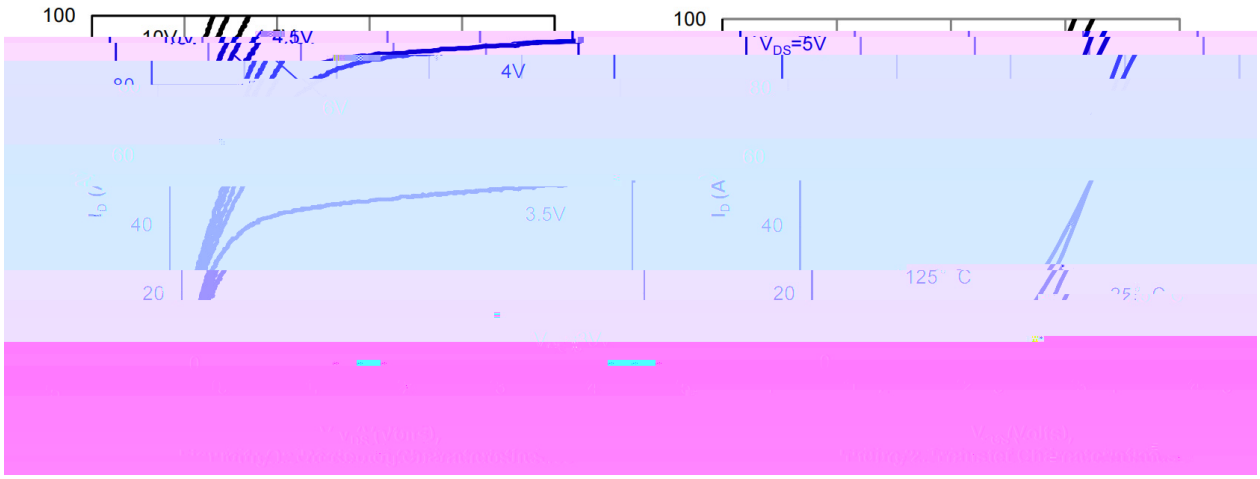
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	100	V
Continuous Drain Current		I_D	46	A
Pulsed Drain Current		I_{DM}	184	A
Gate-Source Voltage		V_{GS}	± 20	V
Power Dissipation		P_D(T_c=25)	78	W
Avalanche energy(L=0.5mH)		E_{AS}	24.5	mJ
Avalanche Current(L=0.5mH)		I_{AS}	7.0	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	
Maximum Junction-to-Ambient	t ≤ 10s	$R_{\theta JA}$	17	/ W
	Steady-State		55	
Maximum Junction-to-Case	Steady-State	$R_{\theta JC}$	1.6	

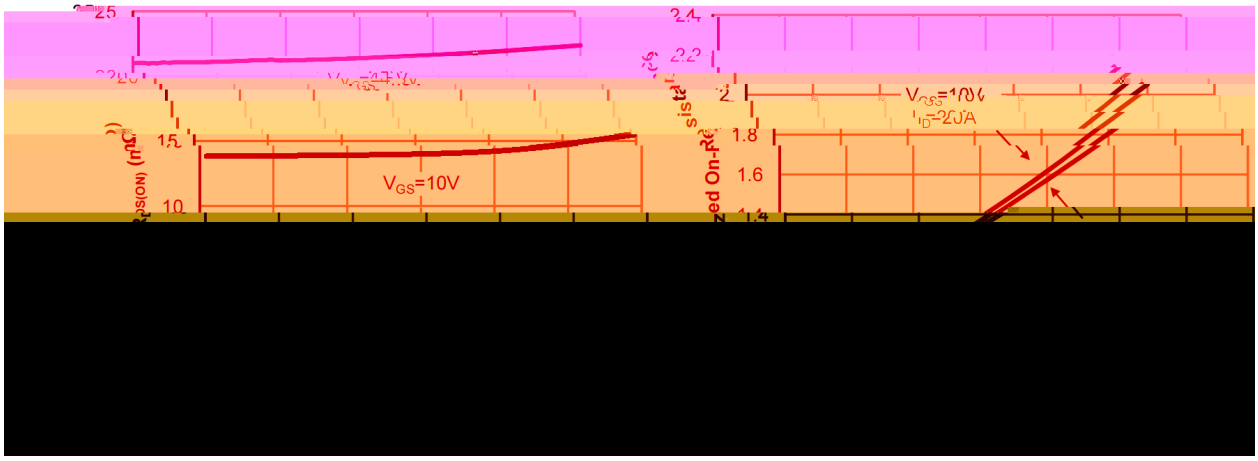
/ Electrical Characteristics(Ta=25)

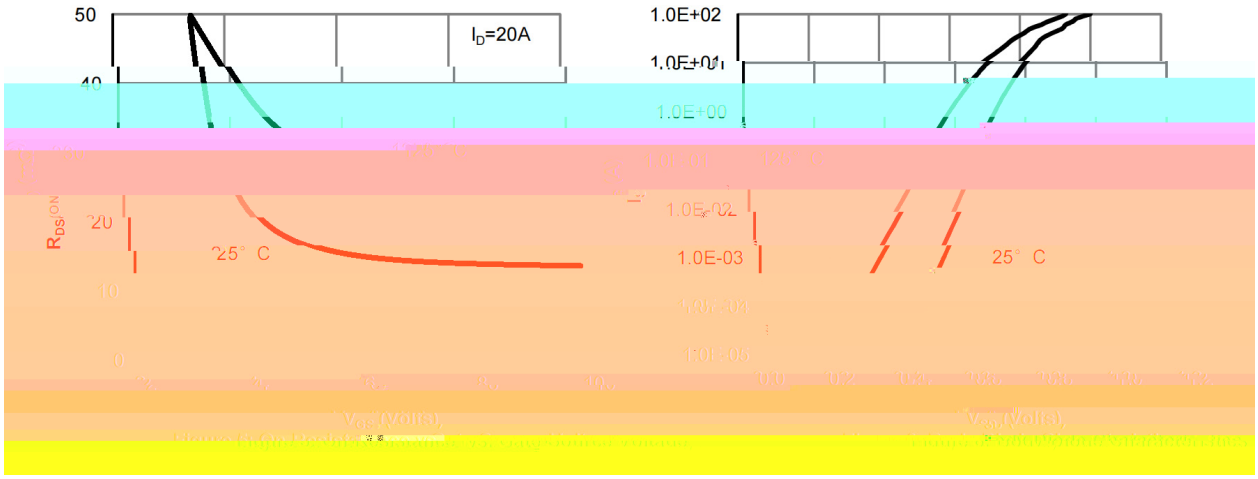
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=250uA, V_{GS}=0V	100	109		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=100V, V_{GS}=0V			1	uA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}= ±20V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250uA	1.0	1.7	2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=20A		14.8	15	mΩ
		V_{GS}=4.5V, I_D=10A		20.4	25	
Diode Forward Voltage	V_{SD}	I_S=1A, V_{GS}=0V			1.2	V
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		1140		pF
Output Capacitance	C_{oss}			600		
Reverse Transfer Capacitance	C_{rss}			60		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz		1.6		
Total Gate Charge	$Q_{g(10V)}$	V_{GS}=10V, V_{DS}=50V, I_D=20A		32.5		nC
Total Gate Charge	$Q_{g(4.5V)}$			15.5		
Gate Source Charge	Q_{gs}			6.5		
Gate Drain Charge	Q_{gd}			5		

BRCS150N10SZCQ

/ Electrical Characteristic Curve







/ Electrical Characteristic Curve

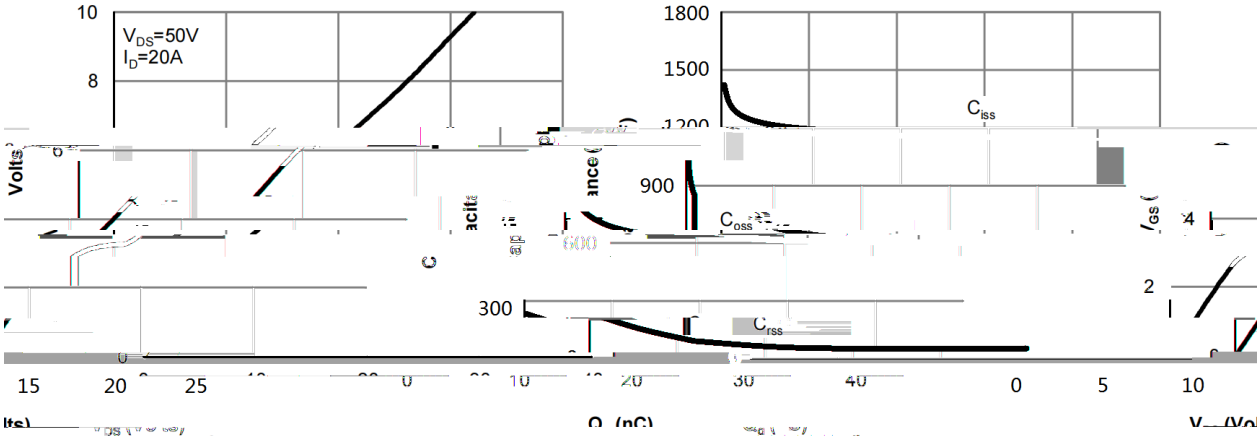
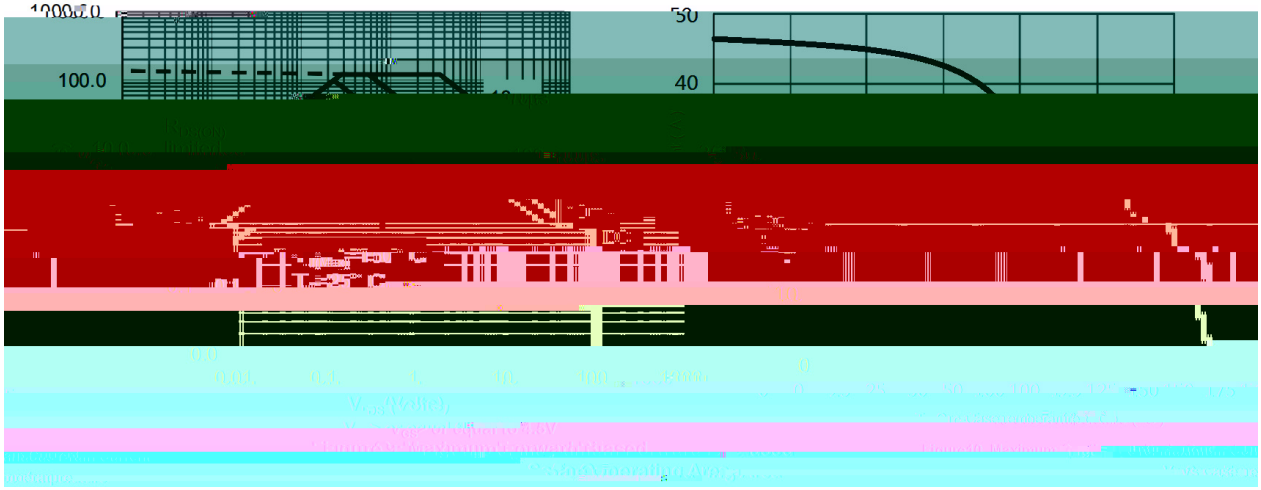
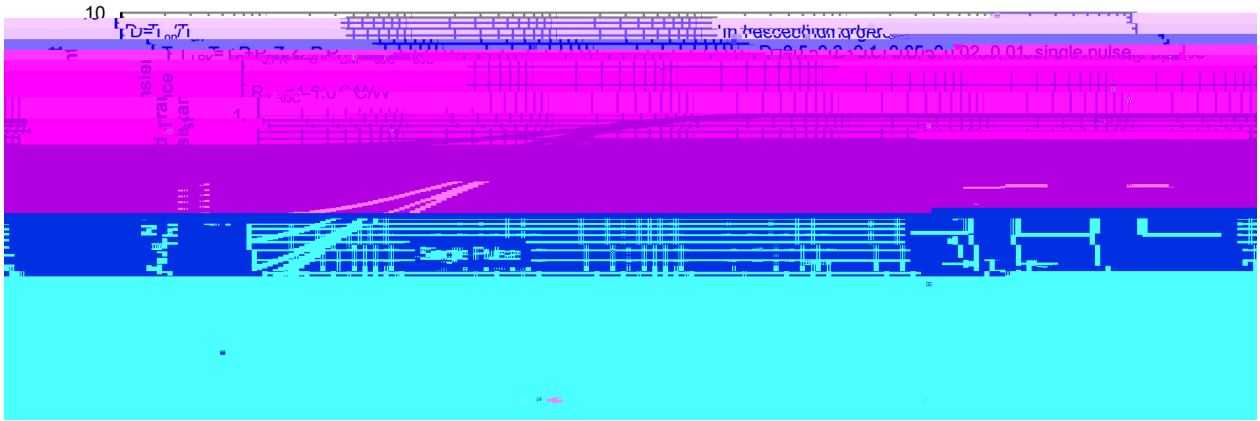


Figure 8: Capacitance Characteristics

Figure 7: Gate-Charge Characteristics





/ Package Dimensions

/ Marking Instructions

BR

Q

150N10S

****

Note

BR	Company Code
Q:	Automobile halogen-free product Code
150N10S	Product Type Code
****:	Lot No. Code, code change with Lot No

( ) /

Note:

1	150 200	60 120sec;	1.Preheating:150~200	, Time:60~120sec.
2	255±5	5±0.5sec;	2.Peak Temp.:255±5	, Duration:5±0.5sec.
3	2 10 /sec.		3. Cooling Speed: 2~10 /sec.	

/ Resistance to Soldering Heat Test Conditions

260±5	10±1 sec.	Temp.:260±5	Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units Units/Reel	Dimension (unit mm³)