

BRCS30P10IP

Rev.A Sep.-2018

TO-251 P MOS P-CHANNEL MOSFET in a TO-251 Plastic Package.

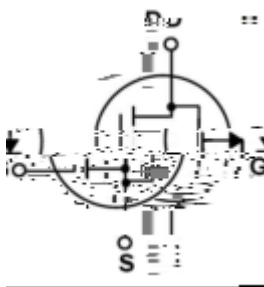
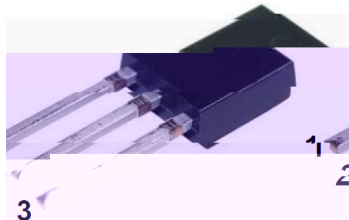
$R_{DS(on)}$

C_{rss}

Low $R_{DS(on)}$, low gate charge, low C_{rss} , fast switching.

DC/DC

Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products.



PIN1

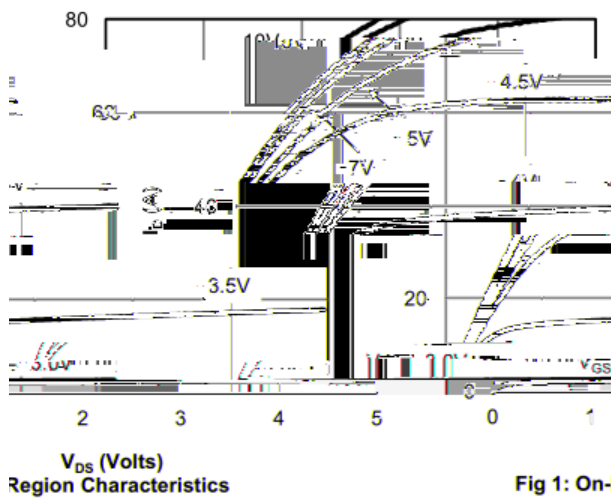
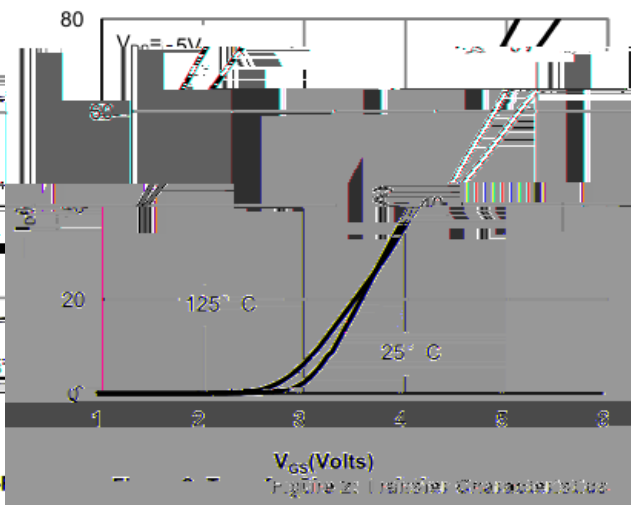
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Capacitance	C_{iss}	$V_{DS}=-25V$ $V_{GS}=0V$ $f=1.0MHz$		5110		pF
Output Capacitance	C_{oss}			198		
Reverse Transfer Capacitance	C_{rss}			131		
Gate resistance	R_g	$V_{GS}=0V$ $V_{DS}=0V$ $f=1MHz$		3.87		q
Total Gate Charge	$Q_g(10V)$	$V_{GS}=-10V$ $V_{DS}=-50V$ $I_D=-20A$		16.5	25	nC
Total Gate Charge	$Q_g(4.5V)$			7	12	
Gate Source Charge	Q_{gs}			4.5		
Gate Drain Charge	Q_{gd}			2.5		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=-10V$ $V_{DS}=-50V$ $R_L=2.5q$ $R_{GEN}=23q$		7		ns
Turn-On Rise Time	t_r			8		
Turn-Off Delay Time	$t_{d(off)}$			20		
Turn-Off Fall Time	t_f			3		
Body Diode Reverse Recovery Time	t_{rr}	$I_F=-20A$ $dI/dt=500A/ms$		30		ns
Body Diode Reverse Recovery Charge	Q_{rr}	$I_F=-20A$ $dI/dt=500A/ms$		145		nC
Maximum Junction-to-Ambient ^A	R_{dJA}	$t \leq 10s$		16	20	/W
Maximum Junction-to-Ambient ^{AD}		steady-State		41	50	/W
Maximum Junction-to-Case	R_{dJC}	steady-State		2.2	2.8	/W

A. The value of R_{dJA} is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_A=25^{\circ}C$. The Power dissipation PDSM is based on R_{dJA} and the maximum allowed junction temperature of $150^{\circ}C$. The value in any given application depends on the user's specific board design, and the maximum temperature of $150^{\circ}C$ may be used if the PCB allows it.

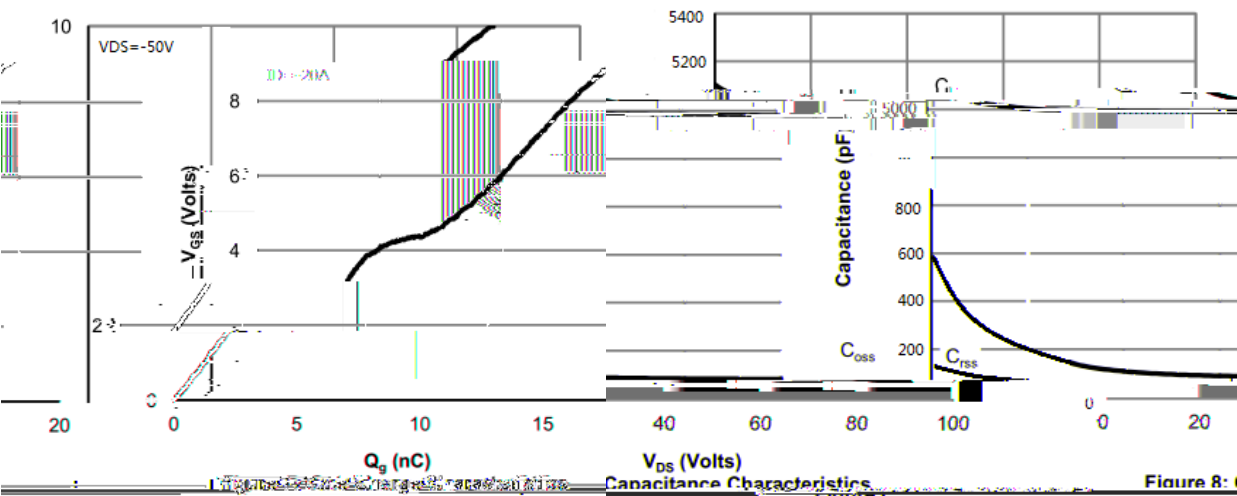
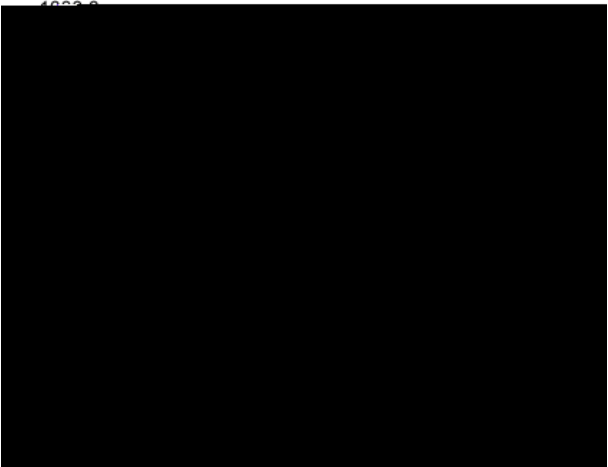
B. The power dissipation PD is based on $T_{J(MAX)}=150^{\circ}C$, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heatsinking is used.

C. Repetitive rating, pulse width limited by junction -1.4857 T1 Tc0 T0011 Tcwt(MAX)

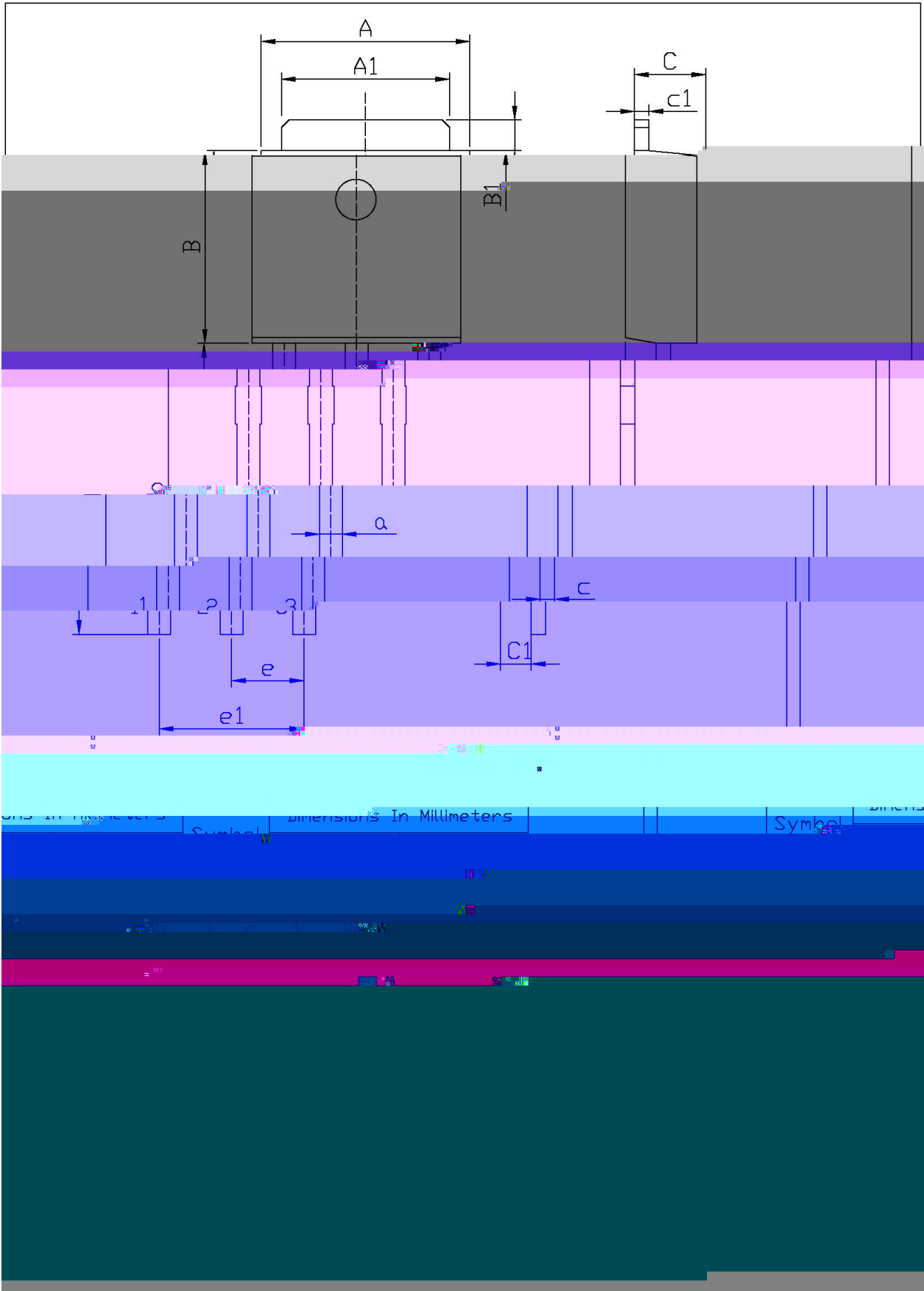
/ Electrical Characteristic Curve



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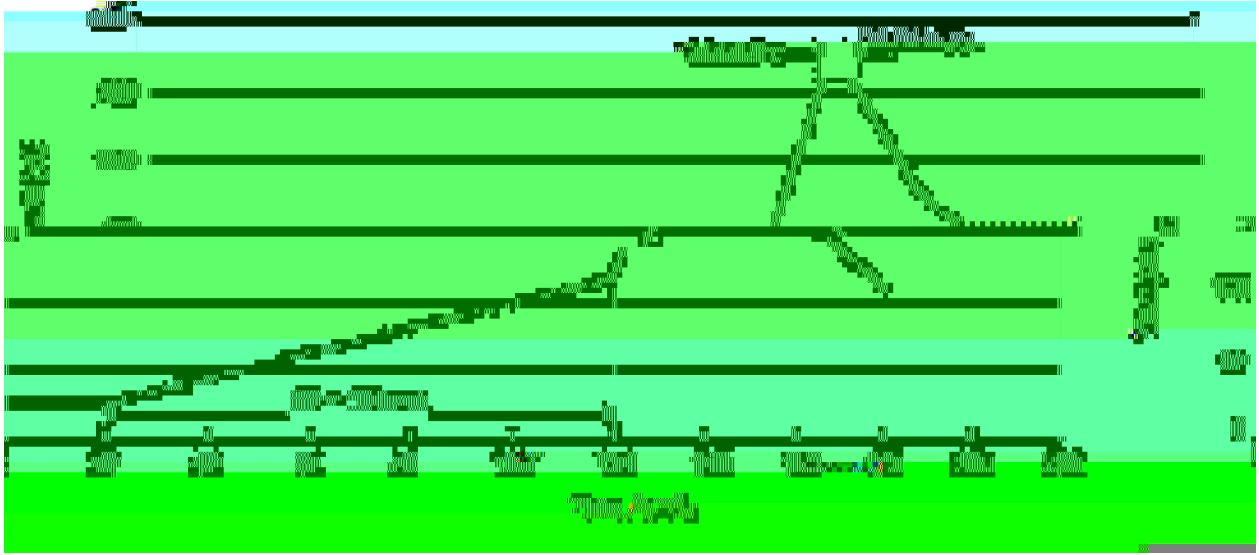
/ Package Dimensions



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DATA SHEET


() / Temperature Profile for IR Reflow Soldering(Pb-Free)


Note:

- | | | | | | |
|---|-------|-----|-----------|---|--------------------------------------|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 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

270±5 10±1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.
/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
TO-251	1,000	10	10,000	5	50,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type	Units					Dimension (unit mm ³)		
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

/ Notices