

BRCS900P10DP

Rev.A Aug.-2023

/ Descriptions

TO-252 P MOS

P-CHANNEL MOSFET in a TO-252 Plastic Package.

/ Features

$V_{DS}(V)=-100V$ $I_D=-18A$

$R_{DS(ON)}@-10V<90m\Omega$ (Typ.80mR)

$R_{DS(ON)}@-4.5V<100m\Omega$ (Typ.90mR)

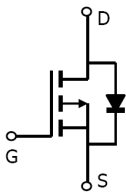
HF Product.

/ Applications

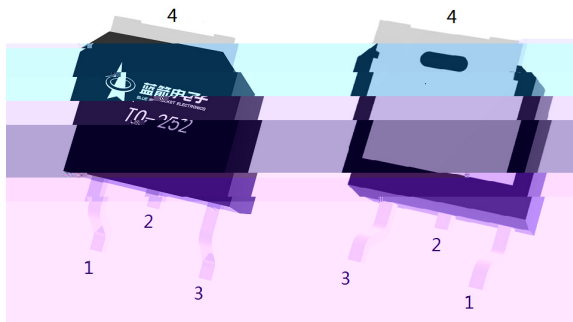
DC/DC

Power Management of Industrial DC/DC Converter.

/ Equivalent Circuit



/ Pinning



PIN1 G

PIN 2 D

PIN 3 S

PIN 4 D

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-100	V
Drain Current - Continuous		$I_D(T_c=25^\circ\text{C})$	-18	A
Drain Current – Pulsed		I_{DM}	-54	A
Gate-Source Voltage		V_{GS}	± 20	V
Power Dissipation		$P_D(T_c=25^\circ\text{C})$	65	W
Single Pulse Avalanche Energy($L=0.5\text{mH}$)		E_{AS}	185	mJ
Avalanche Current($L=0.5\text{mH}$)		I_{AS}	-21.5	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	
Thermal resistance, junction - ambient	Steady-State	$R_{\theta JA}$	63	/ W
Thermal resistance, junction - case	Steady-State	$R_{\theta JC}$	1.92	

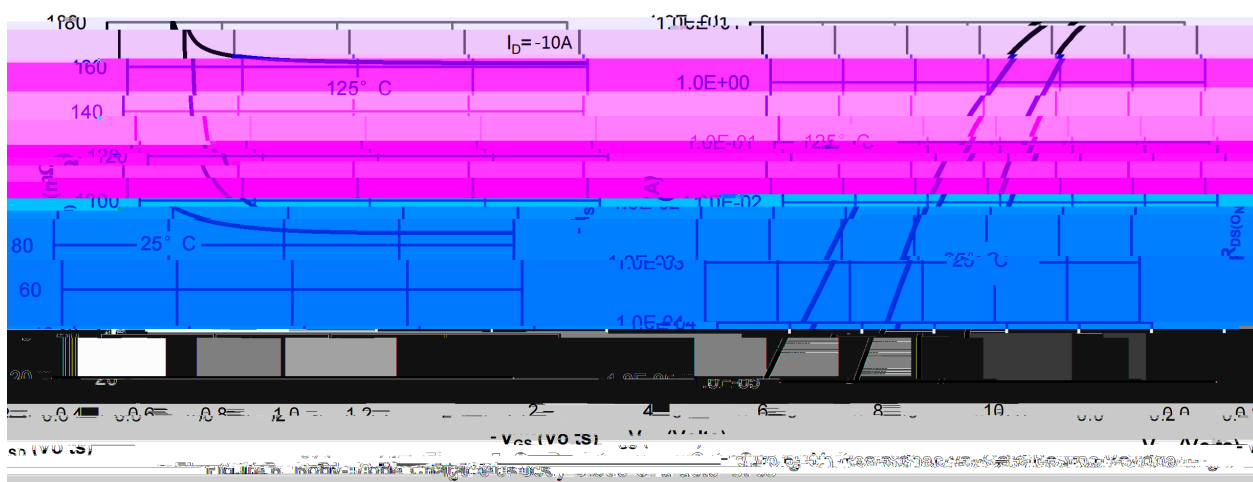
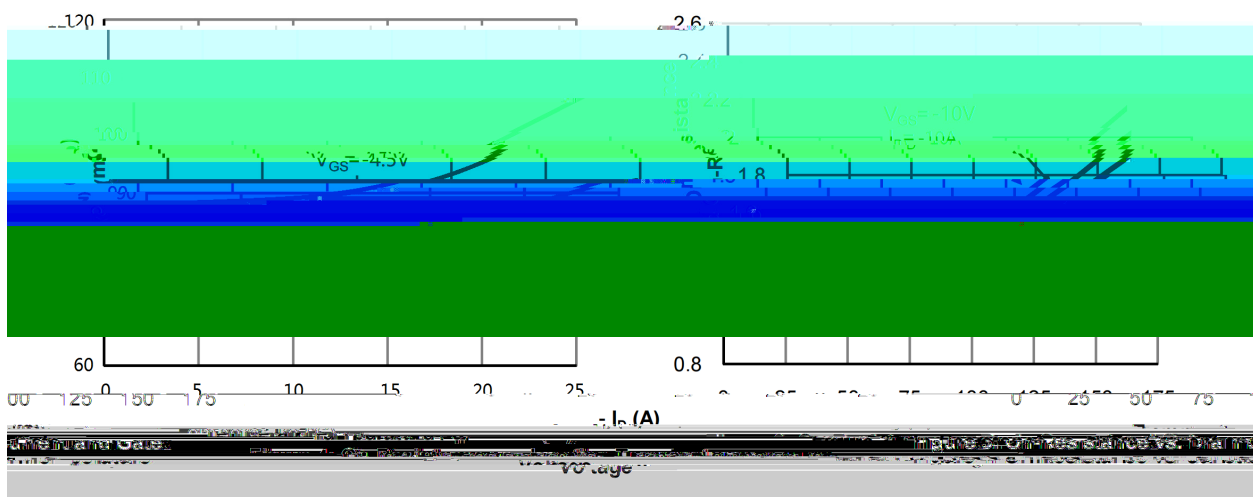
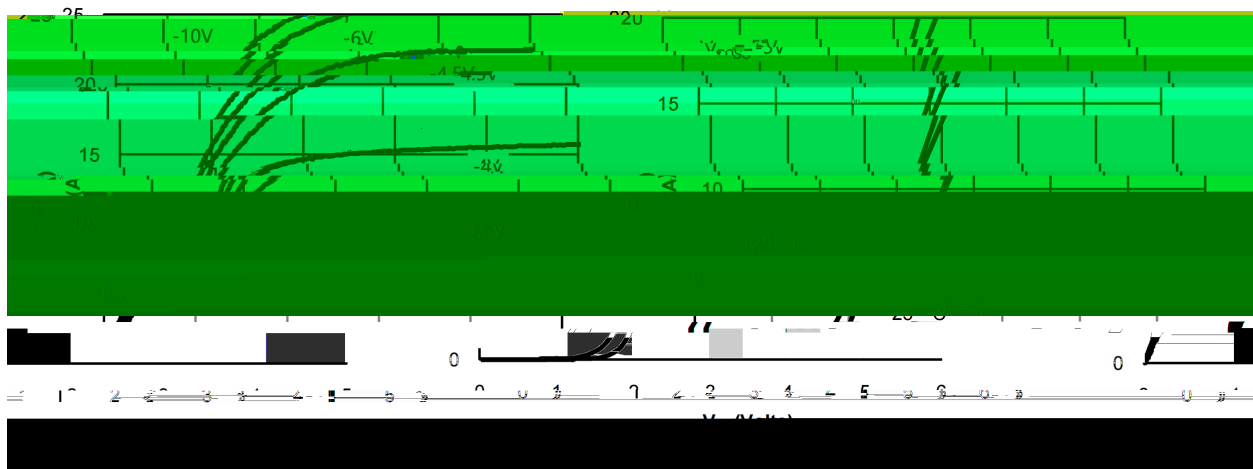
/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=-250\mu\text{A}$ $V_{GS}=0\text{V}$	-100	-110		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-100\text{V}$ $V_{GS}=0\text{V}$			-1	μA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0\text{V}$, $V_{GS}=\pm 20\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu\text{A}$	-1	-1.7	-2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10\text{V}$, $I_D=-10\text{A}$		80	90	m Ω
		$V_{GS}=-4.5\text{V}$, $I_D=-10\text{A}$		90	100	
Diode Forward Voltage	V_{SD}	$I_S=-1\text{A}$, $V_{GS}=0\text{V}$			-1.2	V
Input Capacitance	C_{iss}	$V_{DS}=-15\text{V}$ $V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		5200		pF
Output Capacitance	C_{oss}			750		
Reverse Transfer Capacitance	C_{rss}			450		
Gate resistance	R_g	$V_{GS}=0\text{V}$ $V_{DS}=0\text{V}$ $f=1\text{MHz}$		4.2		Ω
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=-10\text{V}$, $V_{DS}=-50\text{V}$, $I_D=-5\text{A}$		5.9		nC
Total Gate Charge	$Q_{g(4.5V)}$			2.7		
Gate Source Charge	Q_{gs}			1.2		
Gate Drain Charge	Q_{gd}			1.2		

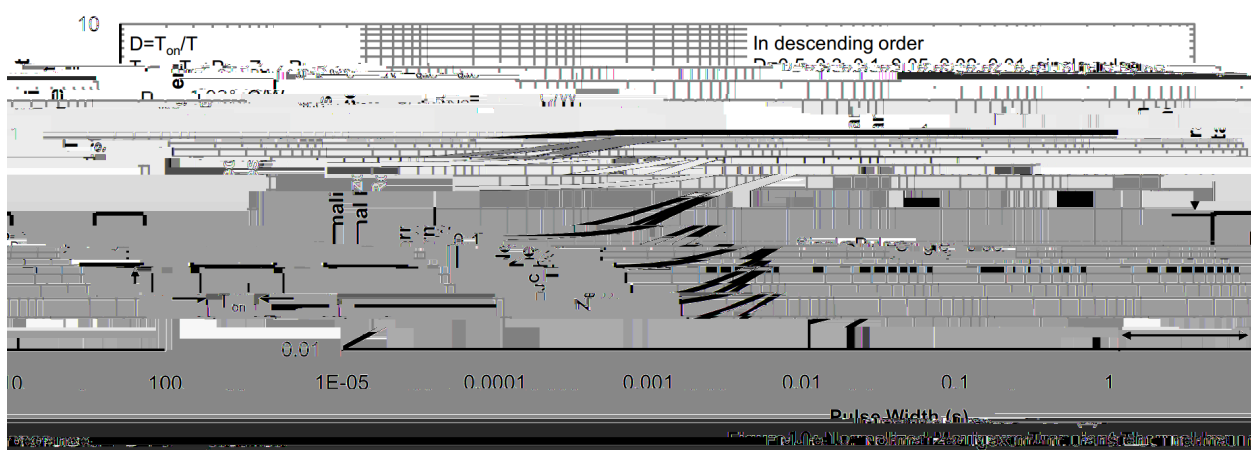
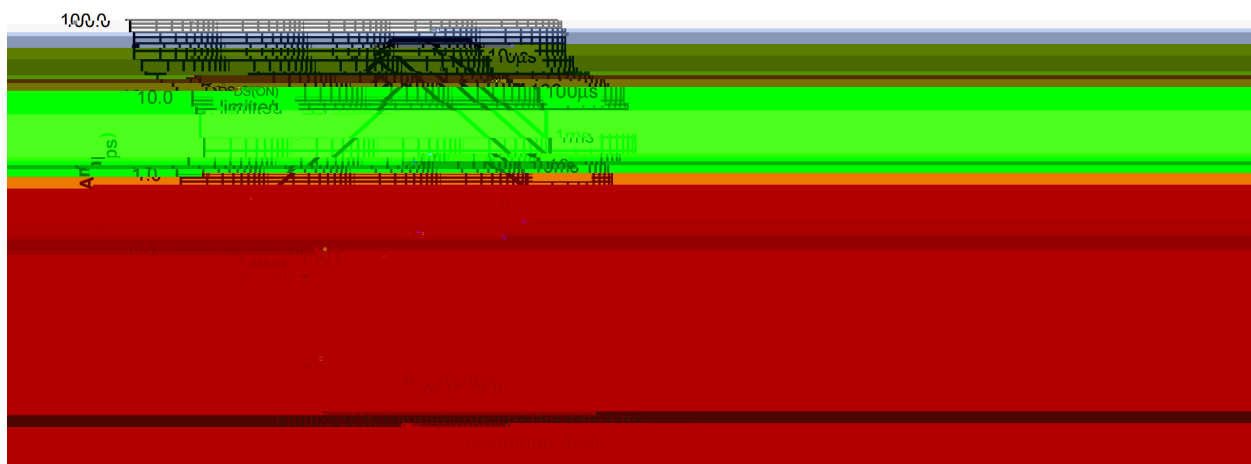
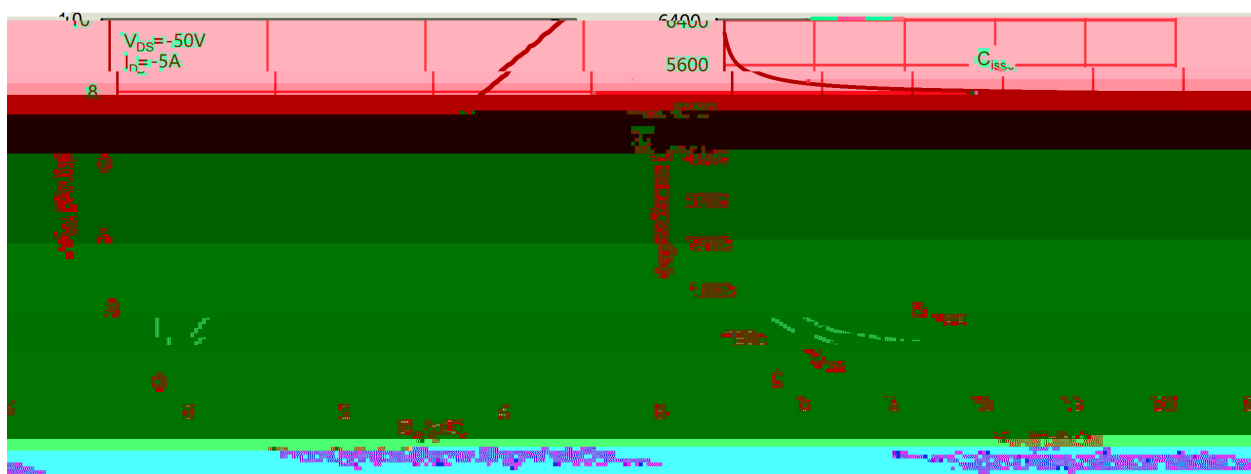
Parameter

@ f

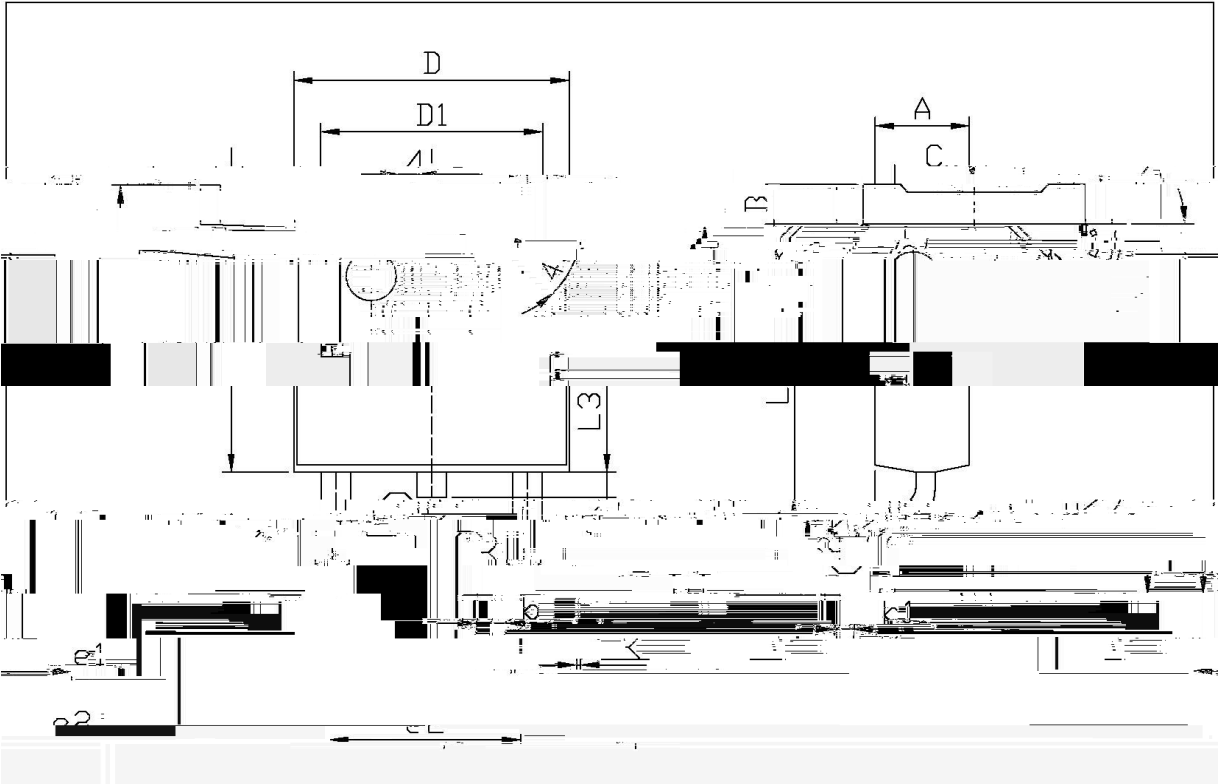
/ Electrical Characteristic Curve



/ Electrical Characteristic Curve



/ Package Dimensions

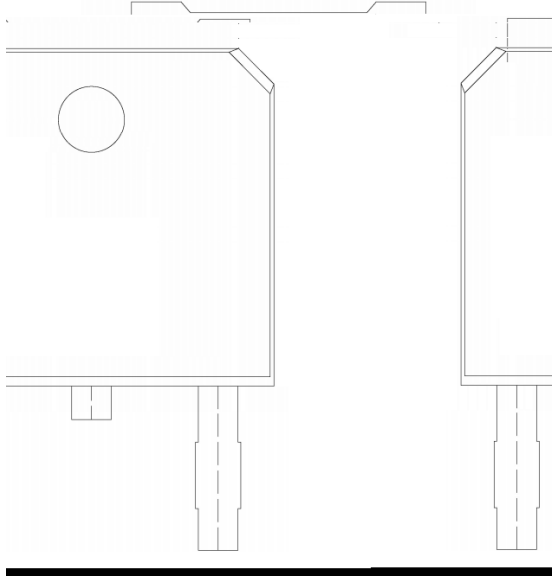


单位：mm

Dimensions, Millimeters		Dimensions, Inches	
Min.	Max.	Min.	Max.
A	4.23	0.00	0.10
B	2.34	0.95	1.25
C	1.73	0.70	0.60
D	10.35	0.45	0.55
D1	6.45	0.55	0.52
L1	0.00	0.60	0.00
L2	0.00	0.60	0.00
L3	0.00	0.60	0.00
K	0.00	0.60	0.00
e1	2.24	0.95	1.25
e2	2.24	0.95	1.25
e3	2.24	0.95	1.25

T0-252

/ Marking Instructions



BR

900P10

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