BRCS900P10DP

Rev.A Aug.-2023

DATA SHEET

/ Descriptions

TO-252 P MOS

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

/ Features

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

$R_{DS(ON)}$@-10V<90mΩ(Typ.80mR)

$R_{DS(ON)}$@-4.5V<100mΩ(Typ.90mR)

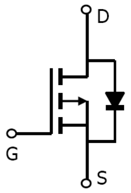
HF Product.

/ Applications

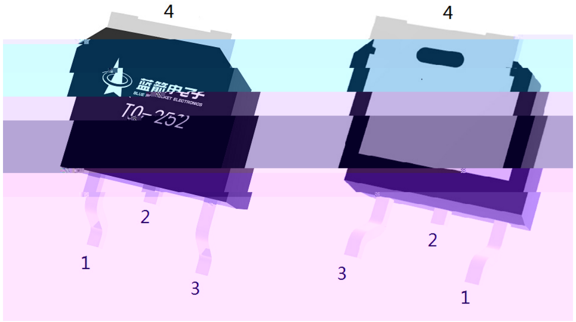
DC/DC

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)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-100	V
Drain Current - Continuous		I_D(T_c=25)	-18	A
Drain Current – Pulsed		I_{DM}	-54	A
Gate-Source Voltage		V_{GS}	± 20	V
Power Dissipation		P_D(T_c=25)	65	W
Single Pulse Avalanche Energy(L=0.5mH)		E_{AS}	185	mJ
Avalanche Current(L=0.5mH)		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	

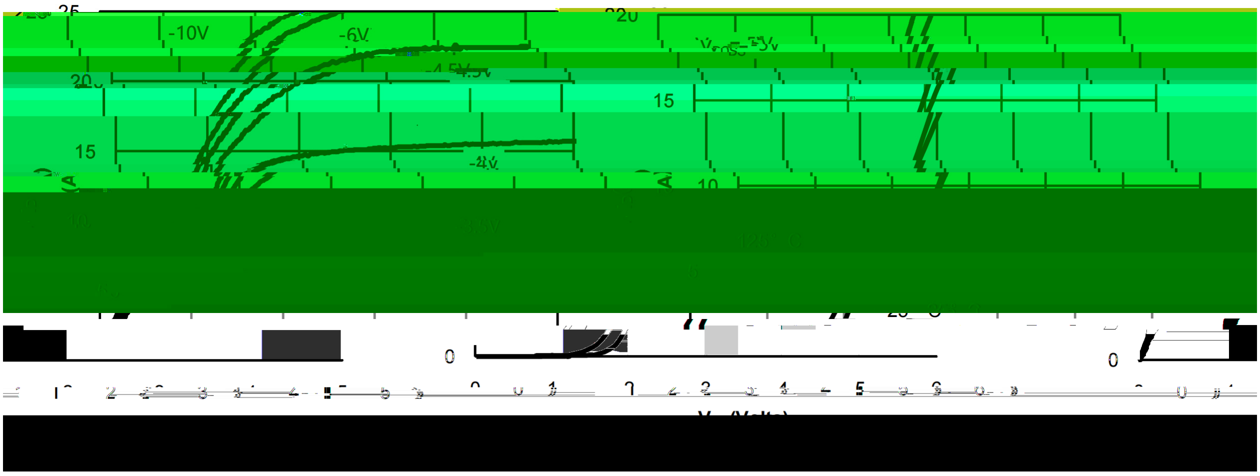
/ Electrical Characteristics(Ta=25)

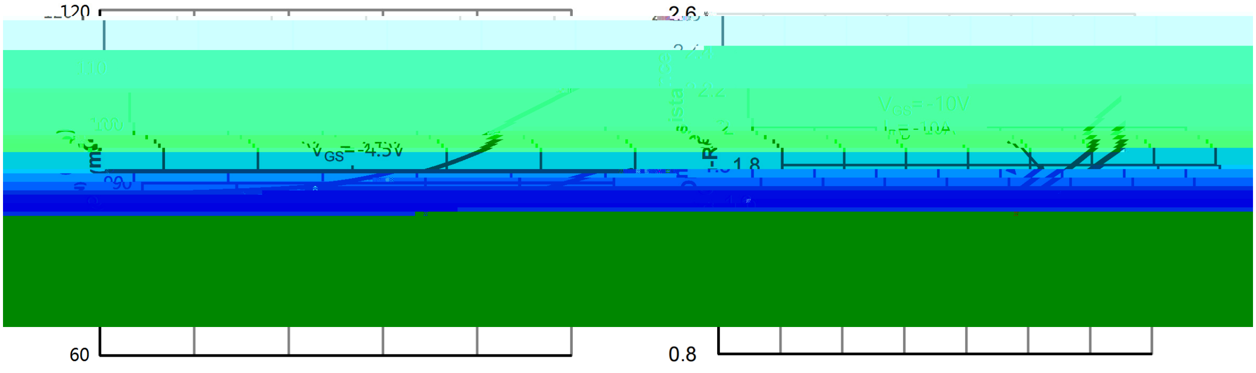
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=-250μA V_{GS}=0V	-100	-110		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-100V V_{GS}=0V			-1	uA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}= ±20V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=VGS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

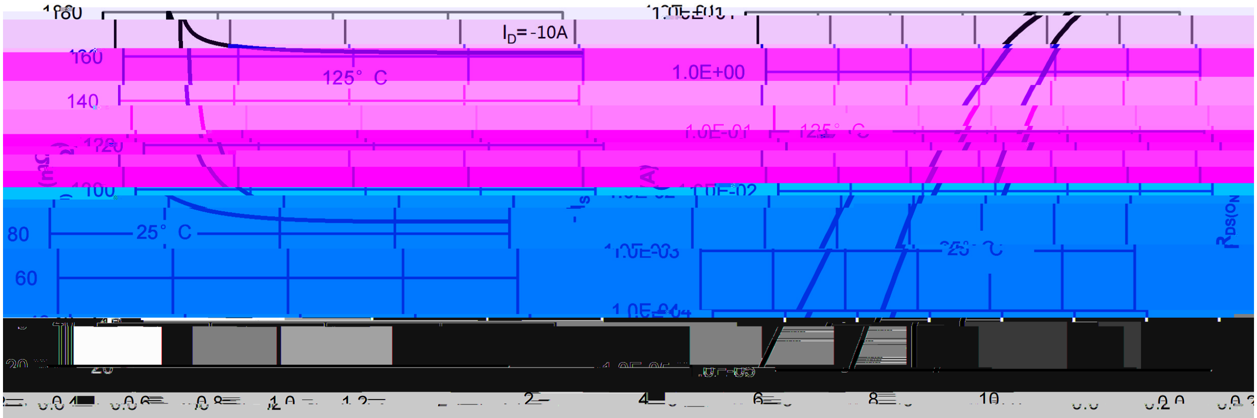
@ *f*

/ Electrical Characteristic Curve

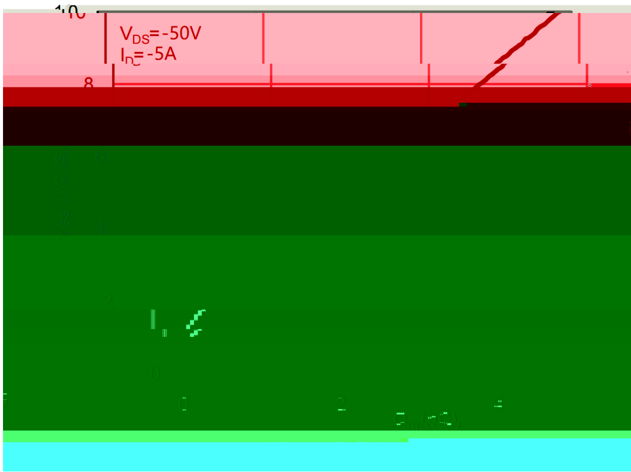


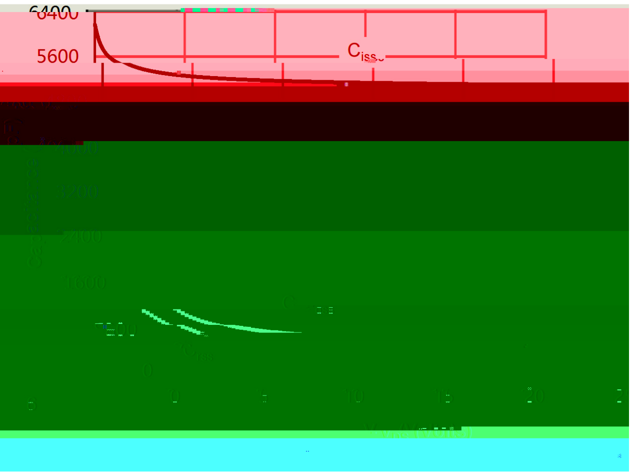


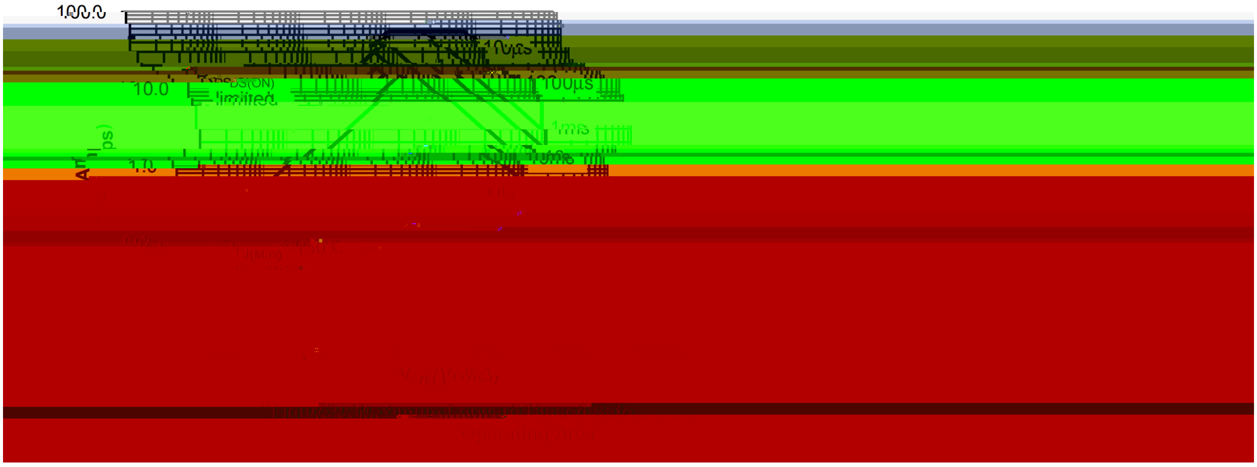
Voltage

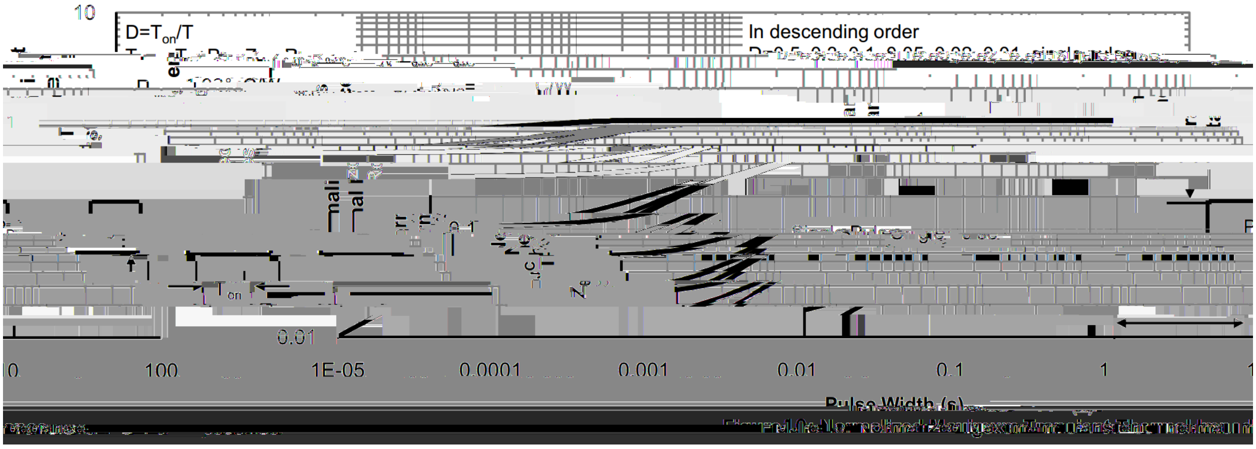


/ Electrical Characteristic Curve

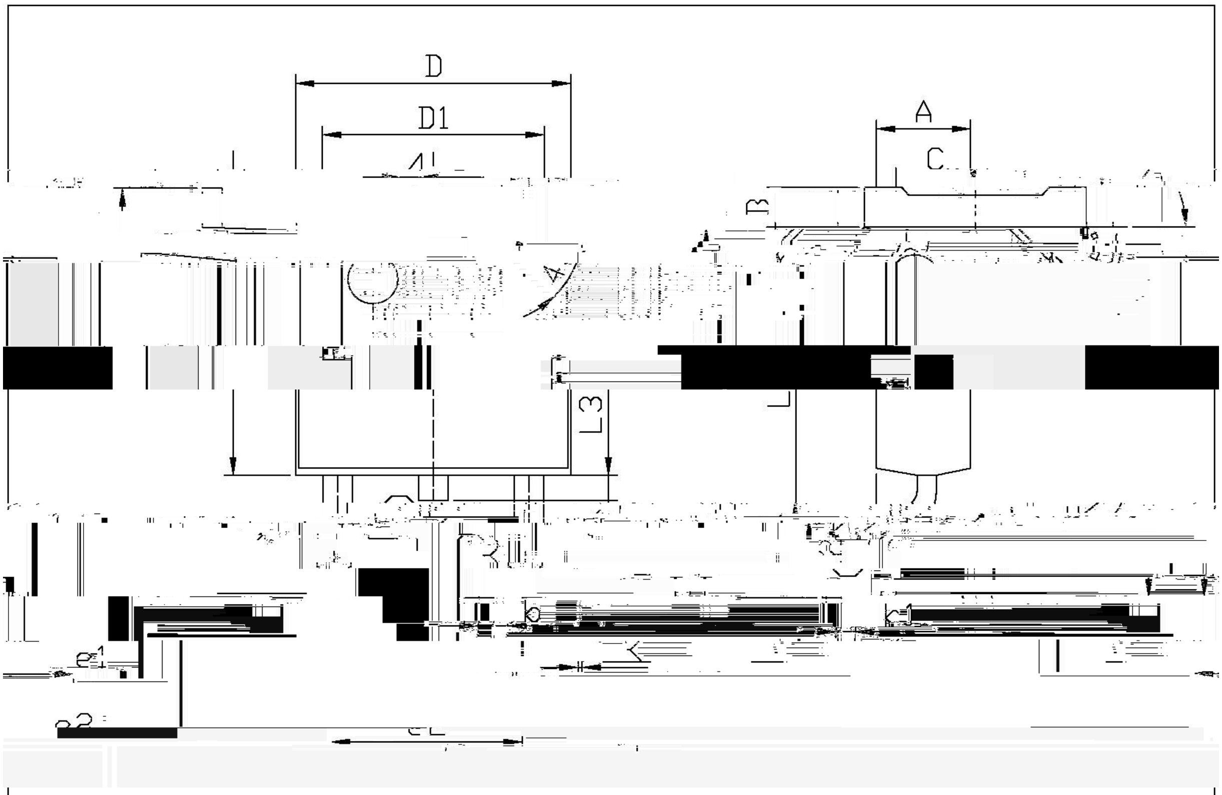








/ Package Dimensions

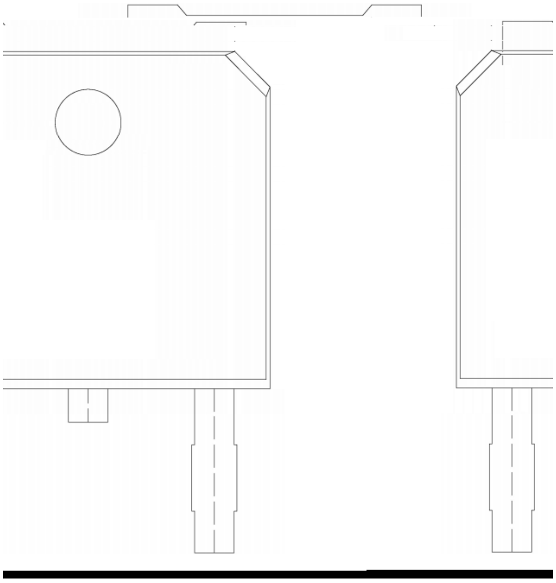


单位：mm

Symbol	Dimensions In Millimeters Min.	Max	Symbol	Min	Max	Symbol	Min	Max
A	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	2.34	[illegible]	B	0.95	1.25	e1	2.24	[illegible]
[illegible]	4.73	[illegible]	b	0.70	0.90	[illegible]	4.4[illegible]	[illegible]
[illegible]	10.35	[illegible]	b1	0.45	0.55	L1	9.85	[illegible]
C	0.45	0.55	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	D	6.45	6.75	L3	0.60	[illegible]
[illegible]	[illegible]	0.10	D1	5.10	5.50	K	0.00	[illegible]

TO-252

/ Marking Instructions



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