

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)

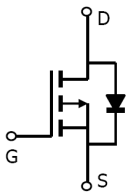
HF Product.

/ Applications

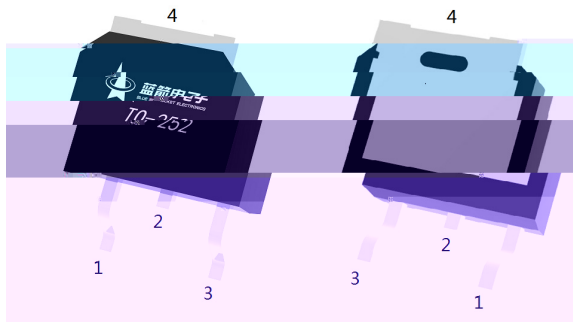
DC/DC

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($T_a=25$)

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	

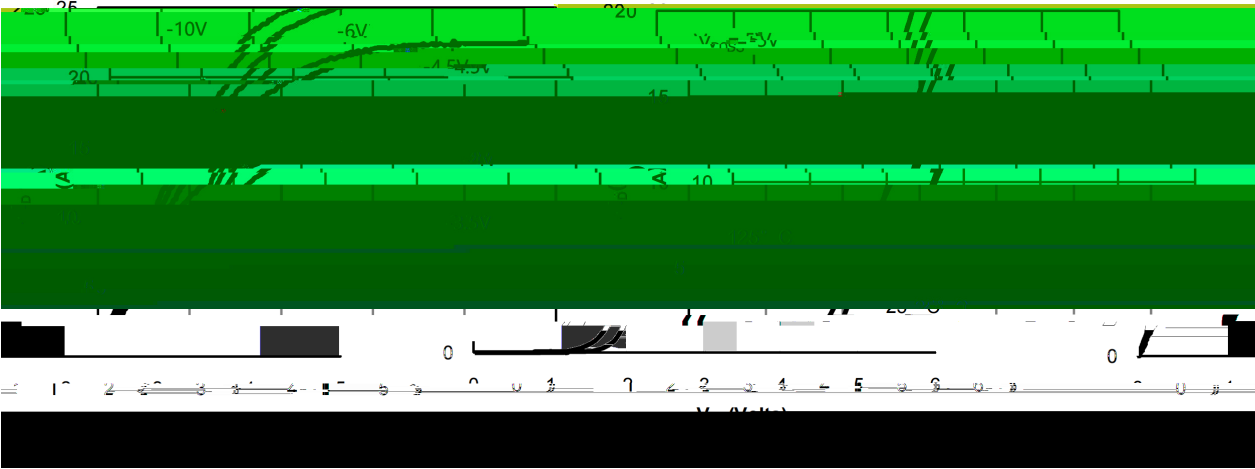
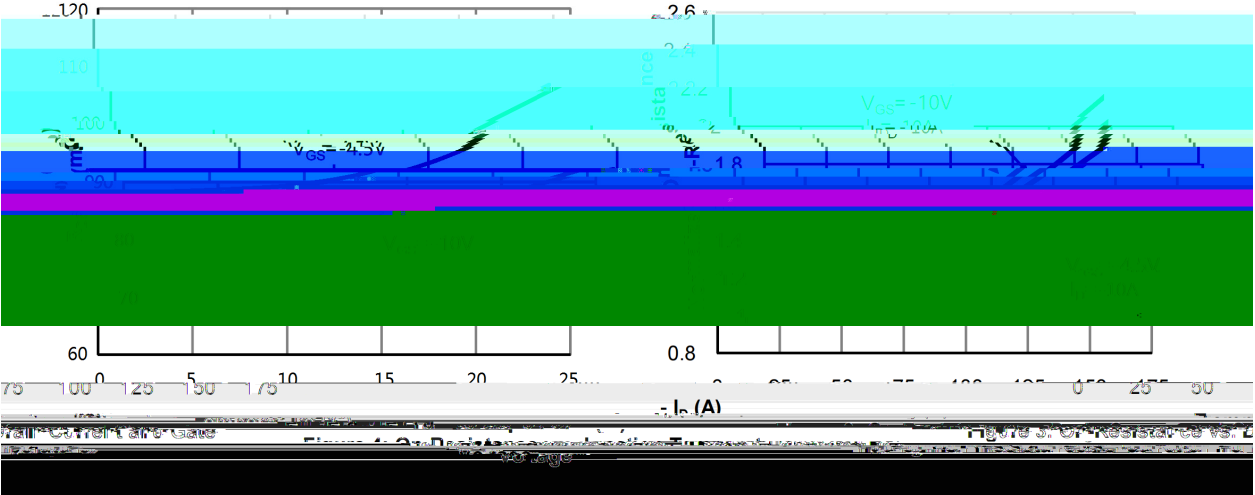
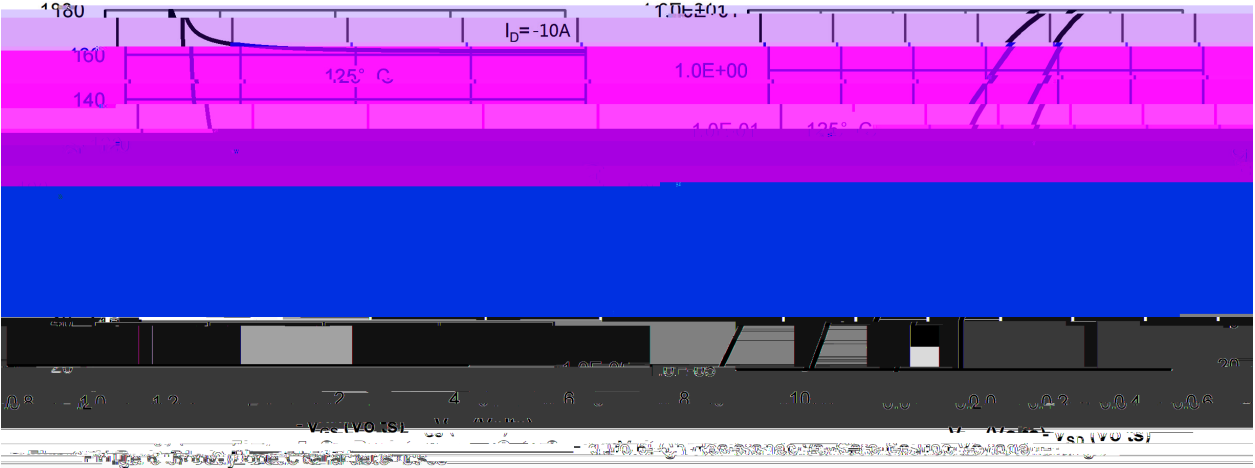
/ Electrical Characteristics($T_a=25$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=-250\mu A$ $V_{GS}=0V$	-100	-110		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-100V$ $V_{GS}=0V$			-1	μA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu A$	-1	-1.7	-2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=-10V, I_D=-10A$		80	90	m Ω
		$V_{GS}=-4.5V, I_D=-10A$		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		

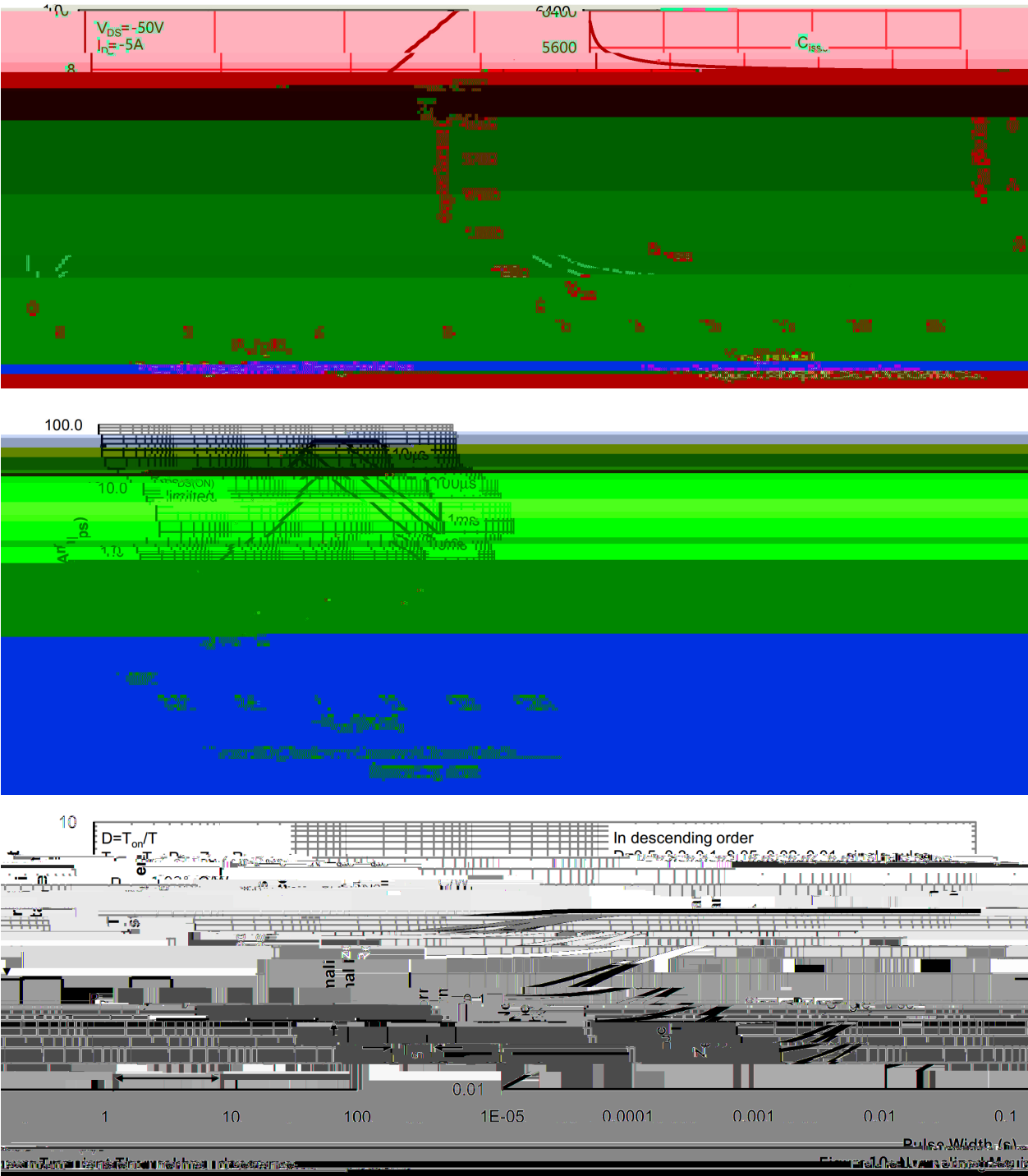
Parameter

@ f

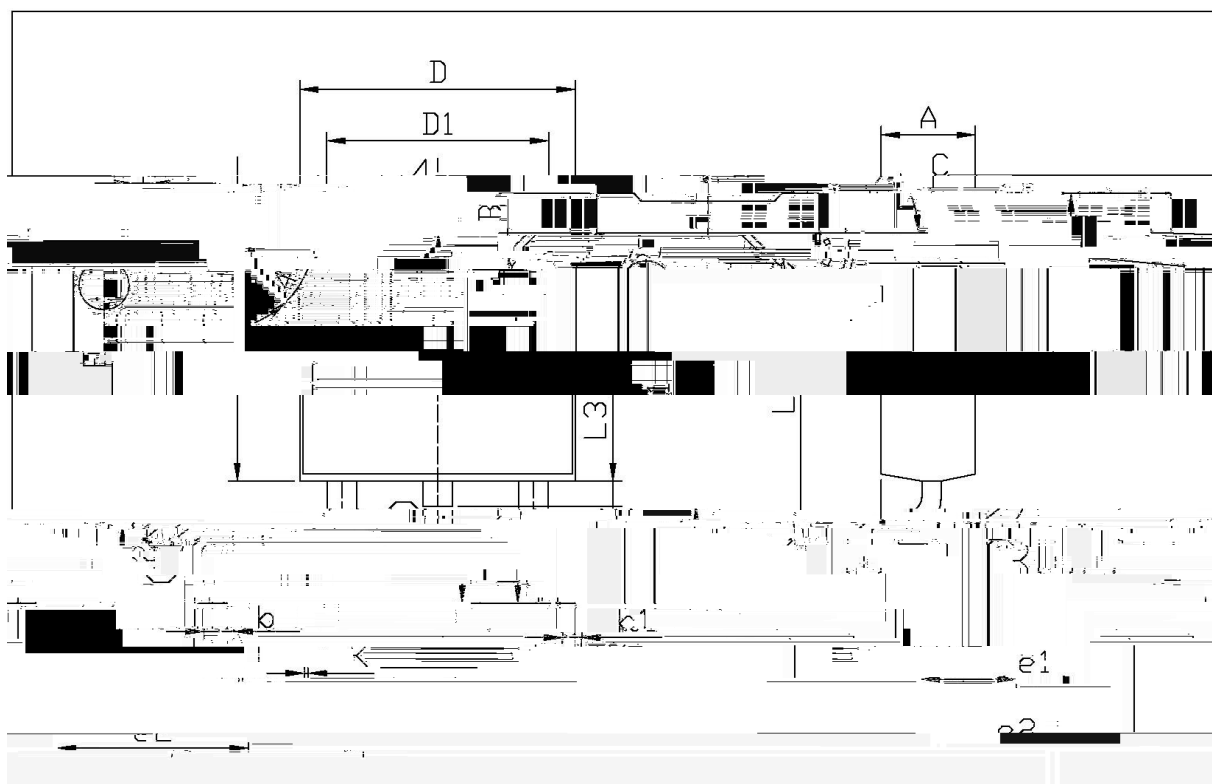
/ Electrical Characteristic Curve



/ Electrical Characteristic Curve



/ Package Dimensions



单位: mm

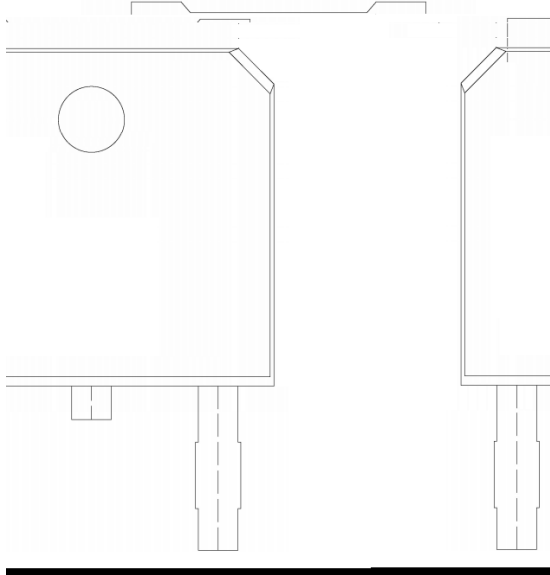
Figure 1 is a cross-section diagram of a road pavement structure. The diagram shows multiple layers with the following thicknesses (from top to bottom): 0.95, 1.26, 2.24, 2.34, 0.15, 0.75, 0.95, and 1.35. The bottom-most layer is labeled 'Subgrade'. A legend on the right indicates 'B' and 'C' with corresponding symbols. A scale bar at the top shows 'Min' and 'Max' values.

52

TO-25



/ Marking Instructions



BR

900P10

K

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