5 é / Descriptions

N ?ú 3 TO-252 .> / / x « | • 'ož

N-Channel MOSFET in a TO-252 Plastic Package.

¤ ª / Features

V_{DS}=200V z I_D=18A z V_{GS}=±20V

$R_{DS(on)}$@10V "170m (Type.115m)

$R_{DS(on)}$@6V "200m (Type.130m)

—)í D }ož HF Product.

Đ ÷ / Applications

à Ìo• ¿ ú • ¼o• 2 + * • ož

Networking,Load Switch,LED applications.

Ã W] Ô · / Equivalent Circuit

• Û - æ / Pinning

PIN1 y G PIN 2o•4 y D PIN 3 y S

, M V / Marking

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See Marking Instructions.

Ã a ? d / Absolute Maximum Ratings(Ta=25 ;)

@ ƒ Parameter		… Z Symbol	ƒ › Rating	% y Unit
Drain-Source Voltage		V_{DSS}	200	V
Drain Current		I_D	18	A
Drain Current - Pulsed		I_{DM}	43	A
Gate-Source Voltage		V_{GS}	±20	V
Single Pulsed Avalanche Energy(L=10mH)		E_{AS}	897	mJ
Avalanche Current(L=10mH)		I_{AS}	11.5	A
Power Dissipation		P_D(Tc=25)	90	W
Operating and Storage Temperature Range		T_J,T_{STG}	-55 to 150	-
Maximum Junction-to-Ambient	t 0 10s	R JA	20	- =
Maximum Junction-to-Ambient	Steady-State		50	
Maximum Junction-to-Case	Steady-State	R JC	1.39	

Ô4ì × ? d / Electrical Characteristics(Ta=25 ;)

@ ƒ Parameter	… Z Symbol	y ¡ Ú ^ Test Conditions	Â 4 › Min	Á º › Typ	Â Ý › Max	% y Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250 A	200	230		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=200V V_{GS}=0V			1	A
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±20V V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250 A	2.0	3.0	4.0	V
Total gate charge	$R_{DS(on)}$	V_{GS}=10V I_D=10A		115	170	m
		V_{GS}=6V I_D=10A		130	200	m
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=1A			1.2	V
Reverse Recovery Time	t_{rr}	V_{GS}=10V V_{DS}=75V,		125		ns
Reverse Recovery Charge	Q_{rr}	I_D=18A R_{GEN}=3 S		0.67		fC
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz		1.2		
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1MHz		1130		pF
Output Capacitance	C_{oss}			165		
Reverse Transfer Capacitance	C_{rss}			6		
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS}=100V, I_D=18A		20		nC
Gate Source Charge	Q_{gs}			3.6		
Gate Drain Charge	Q_{gd}			4.9		

@ *f* Parameter	… Z Symbol	y ¡ Ú ^ Test Conditions	Â 4 › Min	Á º › Typ	Â Ý › Max	% y Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V V_{DS}=75V R_{GEN}=3 S				

Ô ? d • Ž ¢ / Electrical Characteristic Curve

Ô ? d • Ž ¢ / Electrical Characteristic Curve

Ø ¤ =) ¢ / Package Dimensions

, M y ƒ / Marking Instructions

BR
18N20
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Note:

BR:	Company Code
18N20:	Product Type Code
****:	Lot No. Code, code change with Lot No.

BRCS18N20DP