/ Descriptions

TO-252 N MOS N-CHANNEL MOSFET in a TO-252 Plastic Package.

/ Features

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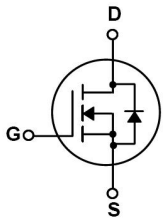
Low gate charge, low crss, fast switching.

/ Applications

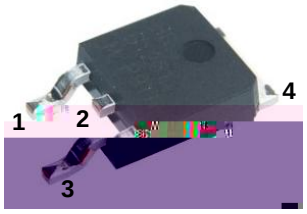
DC/DC

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2,4 D PIN 3 S

/ h_{FE} Classifications & Marking

See Marking Instructions.

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	200	V
Drain Current	I_D(Tc=25)	18	A
Drain Current	I_D(Tc=100)	11.2	A
Pulsed Drain Current Note1	I_{DM}	72	A
Gate-Source Voltage	V_{GSS}	±20	V
Single Pulsed Avalanche Energy Note2	E_{AS}	500	mJ
Repetitive Avalanche Energy	E_{AR}	13.9	mJ
Avalanche Current Note1	I_{AR}	10	A
Total Power Dissipation	P_D	186	W
Junction and Storage Temperature Range	T_J,T_{STG}	-55 to 150	
Junction-to-Case	$R_{\theta JC}$	0.74	/W
Junction-to-Ambient	$R_{\theta JA}$	48.19	/W

Notes:

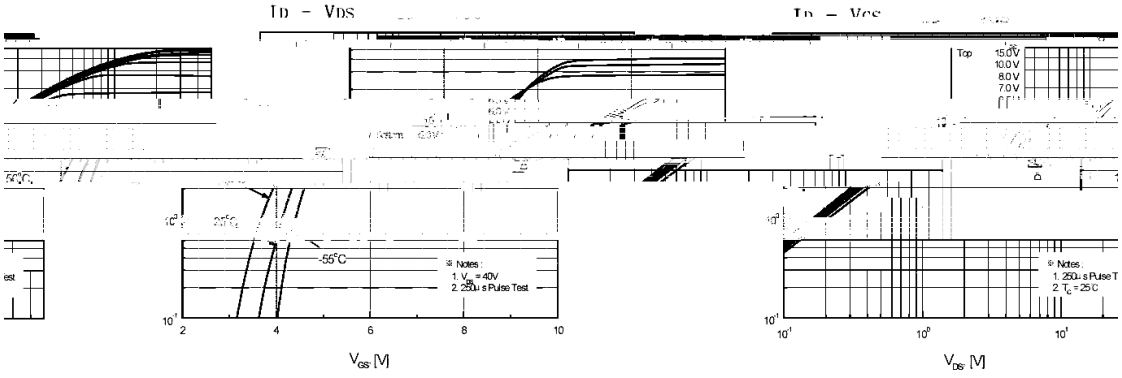
1 Repetitive rating; pulse width limited by maximum junction temperature

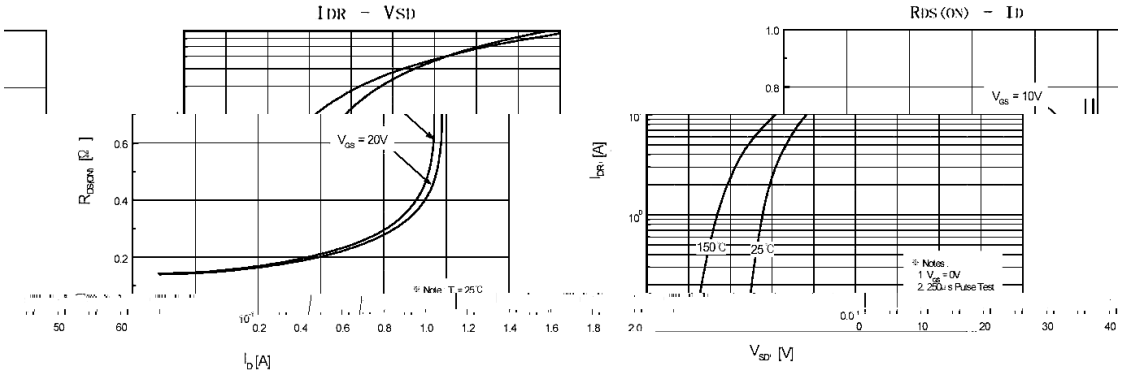
2 L=10.0mH, I_D=10A, Start T_J=25

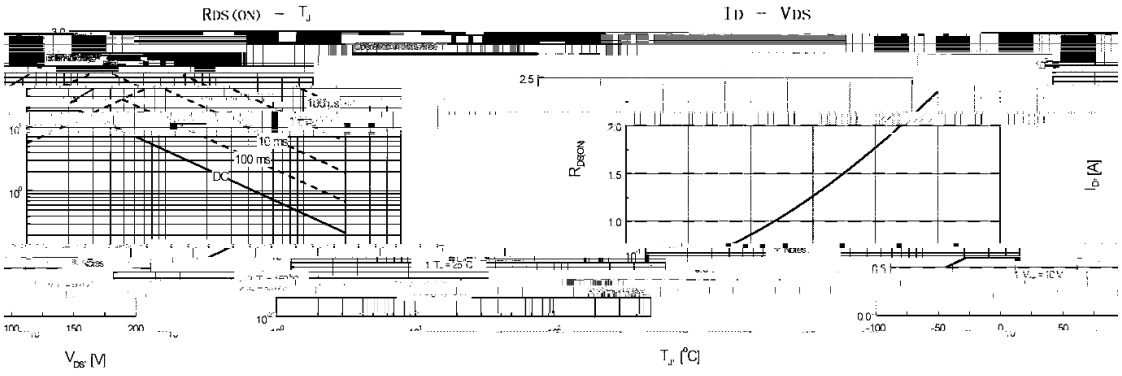
Parameter Symbol

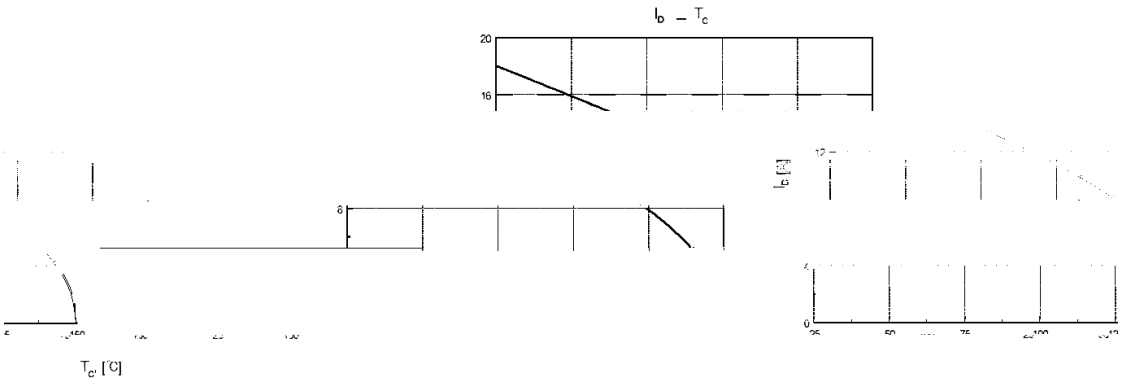
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	Q_g	I_D=18A V_{DD} =160V V_G =10V		31		nC
Gate to Source Charge	Q_{gs}			8.69		nC
Gate to Drain (“Miller”)Charge	Q_{gd}			8.59		nC
Continuous Source Current (Body Diode)	I_S				18	A
Maximum Pulsed Current (Body Diode)	I_{SM}				72	A
Reverse Recovery Time	t_{rr}	I_S=18A T_j = 25°C dI_F/dt=100A/us V_{GS}=0V		208		ns
Reverse Recovery Charge	Q_{rr}			0.79		nC

/ Electrical Characteristic Curve

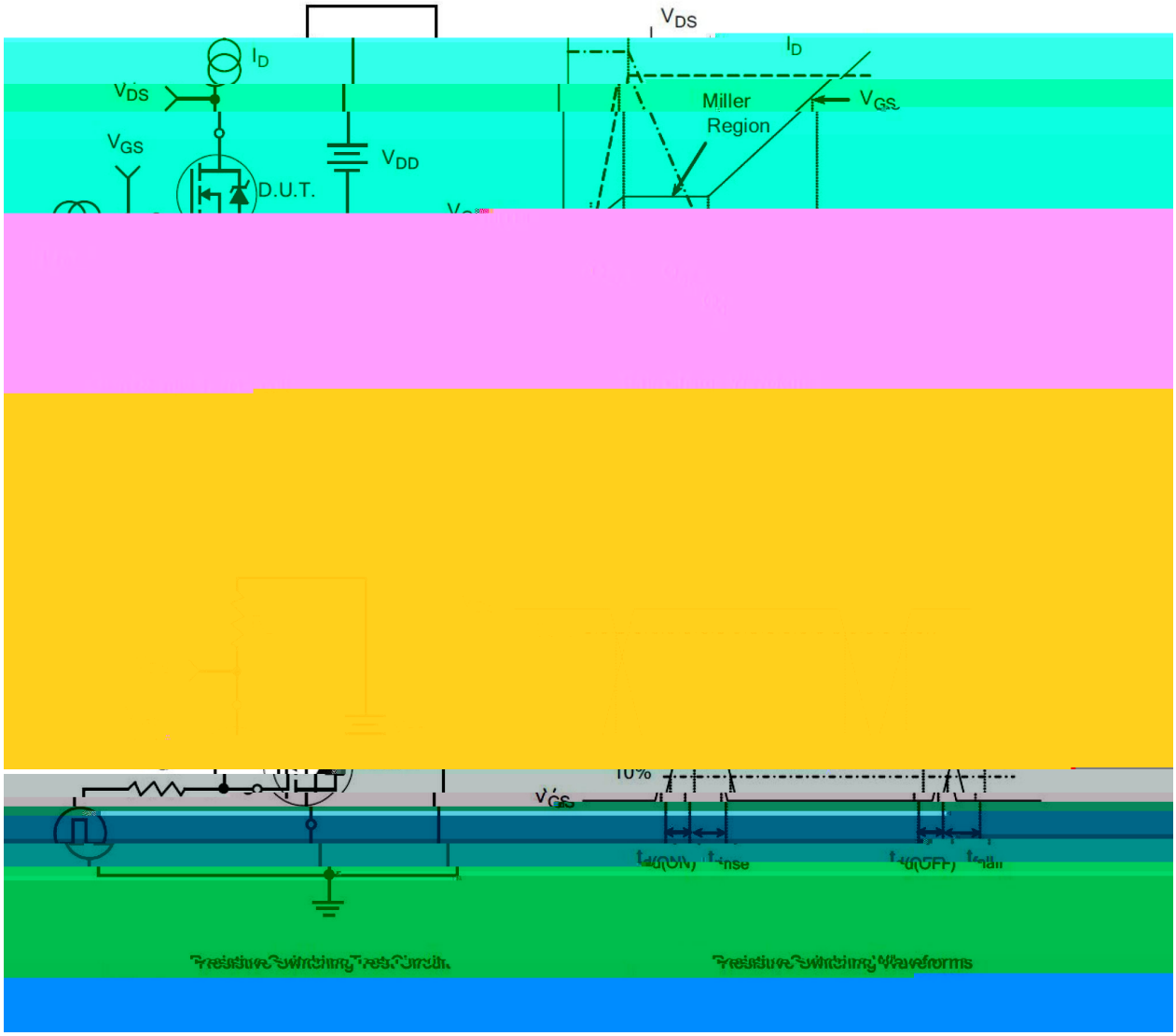




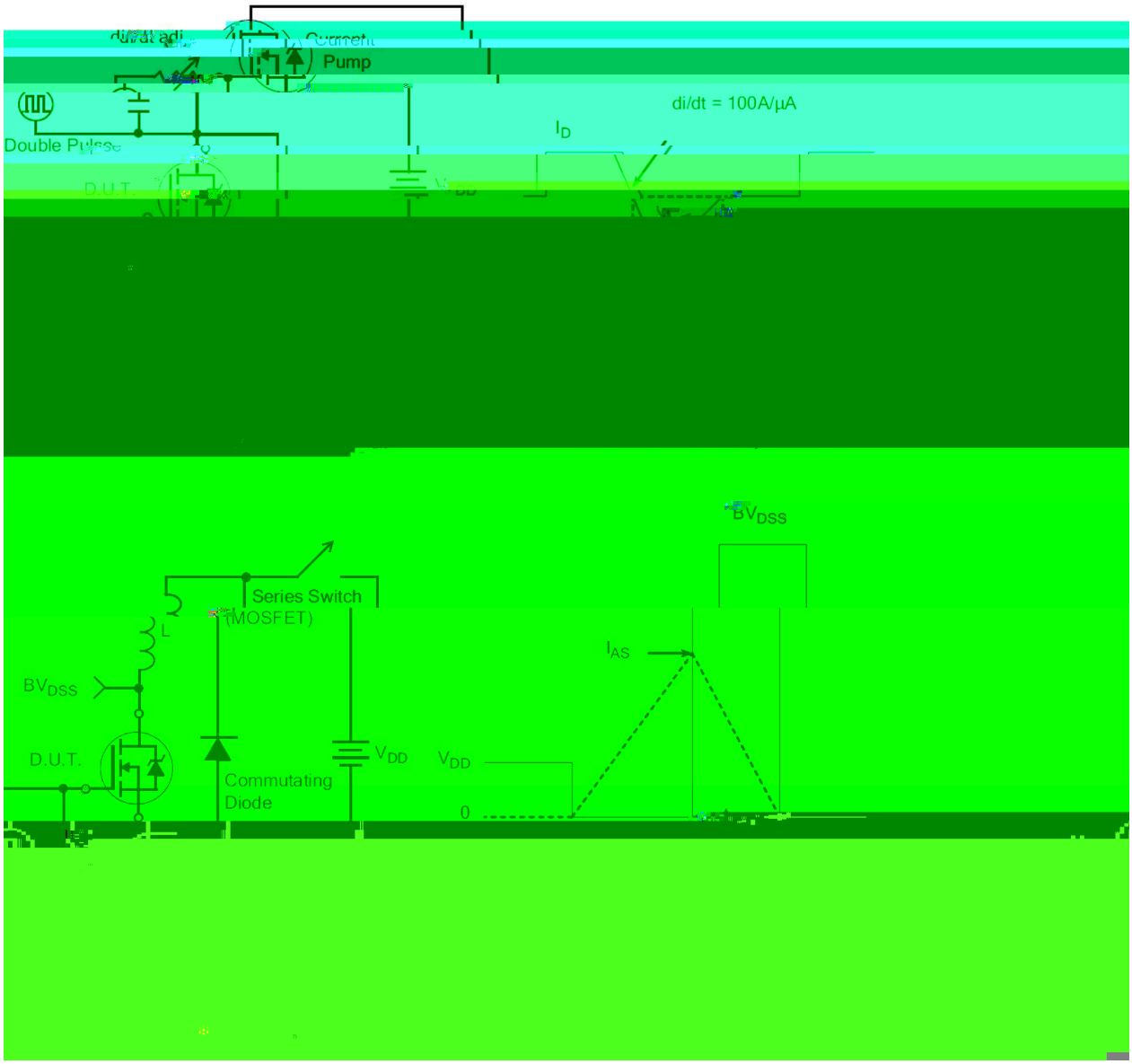




/ Test Circuit and Waveform Curve

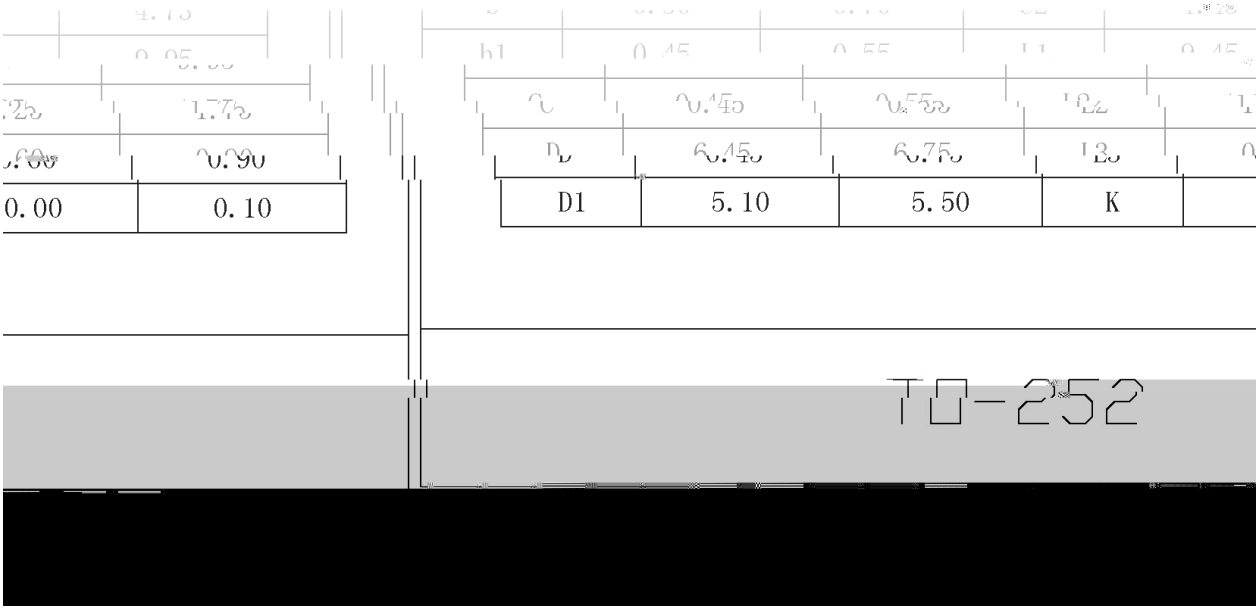


/ Test Circuit and Waveform Curve



/ Package Dimensions





BRD640

Rev.D May.-2016