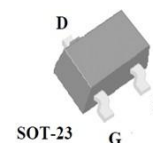
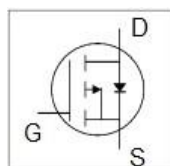


»Features

- Simple Drive Requirement
- Small Package Outline
- Surface Mount Device
- RoHS Compliant & Halogen-Free

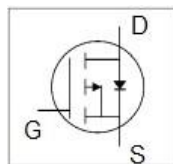
BVDSS	20V
RDS(ON)typ	43mΩ
ID	2A



»Description

CT2302M is from Coretong innovated design and silicon process technology to achieve the lowest possible on- resistance and fast switching performance. It provides the designer with an extreme efficient device for use in a wide range of

»Schematic & PIN Configuration



SOT-23

»Absolute Maximum Ratings@T_J=25°C(unless otherwise specified)

Symbol	Parameter	Rating	Units
VDS	Drain-Source Voltage	20	V
VGS	Gate-Source Voltage	±12	V
I _{D-Continuous}	Drain Current, V _{GS} @ 10V	2	A
I _{DM}	Pulsed Drain Current ₂	10	A
P _{D@T_A=25°C}	Total Power Dissipation ₃	0.225	W
T _{STG}	Storage Temperature Range	-55 to 150	°C
T _J	Operating Junction Temperature Range	150	°C

»Thermal Data

Symbol	Parameter	Value	Unit
R _{thj-a}	Maximum Thermal Resistance, Junction-ambient ₃	350	°C/W

»Electrical Characteristics@T_j=25 oC(unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
BV _{DSS}	Drain-Source Breakdown Voltage	VGS=0V, ID=250uA	20	-	-	V
RDS(ON)	Static Drain-Source On-Resistance	VGS=4.5V, ID=2A	-	43	56	mΩ
		VGS=2.5V, ID=2A	-	55	85	mΩ
V _{GS(th)}	Gate Threshold Voltage	VDS=VGS, ID=250uA	0.4	0.65	1	V
g _{fs}	Forward Transconductance	VDS=5V, ID=-2A	4	-	-	S
I _{DSS}	Drain-Source Leakage Current	VDS=19V, VGS=0V	-	-	-1	uA
I _{GSS}	Gate-Source Leakage	VGS=±12V, VDS=0V	-	-	±100	nA
Q _g	Total Gate Charge	ID=2A	-	3.4	-	nC
Q _{gs}	Gate-Source Charge	VDS=10V	-	0.6	-	nC
Q _{gd}	Gate-Drain ("Miller") Charge	VGS=4.5V	-	1.6	-	nC
t _{d(on)}	Turn-on Delay Time	VDS=10V ID=2A RG=6Ω VGS=4.5V, RL=2.8Ω	-	2	-	ns
t _r	Rise Time		-	10	-	ns
t _{d(off)}	Turn-off Delay Time		-	8	-	ns
t _f	Fall Time		-	3	-	ns
C _{iss}	Input Capacitance	VGS=0V	-	270	-	pF
C _{oss}	Output Capacitance	VDS=10V	-	35	-	pF
Crss	Reverse Transfer Capacitance	f=1.0MHz	-	25	-	pF

»Source-Drain Diode

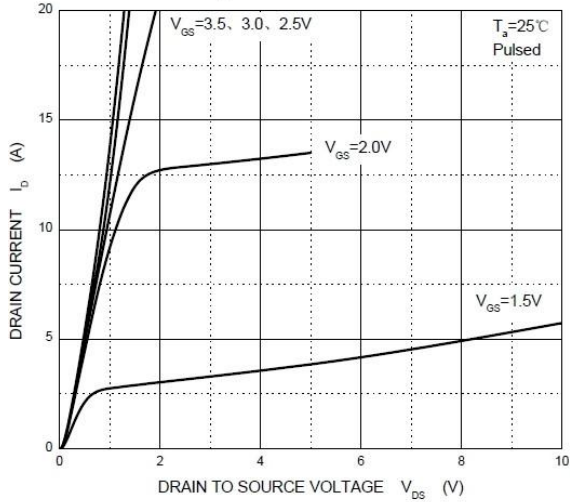
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V _{SD}	Forward On Voltage ²	IS=2A, VGS=0V	-	-	1.2	V

Notes:

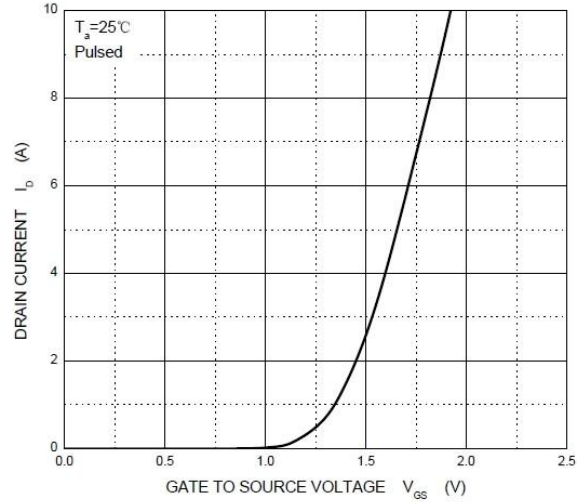
- 1.Pulse width limited by Max. junction temperature.
- 2.Pulse test
- 3.Surface mounted on 1 in² 2oz copper pad of FR4 board, t_≤10sec ; 300°C/W when mounted on min. copper pad.

»Typical Performance Characteristics

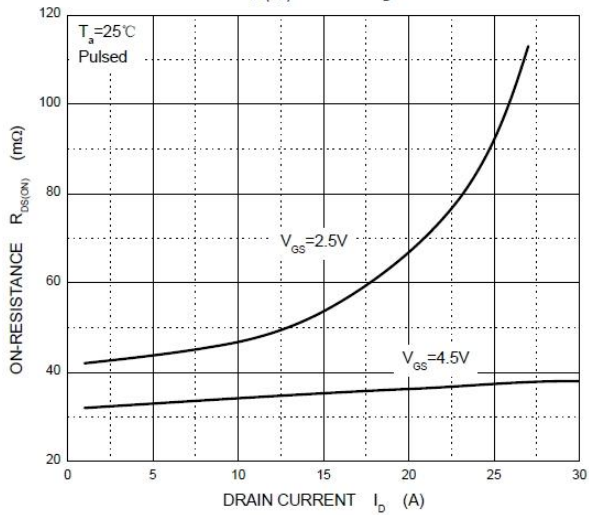
Output Characteristics



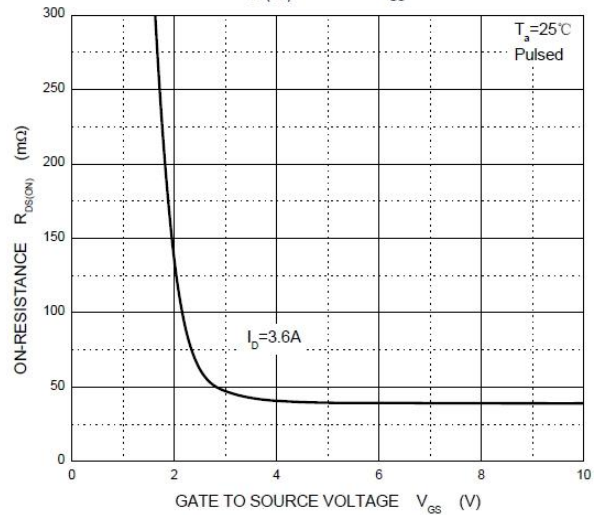
Transfer Characteristics



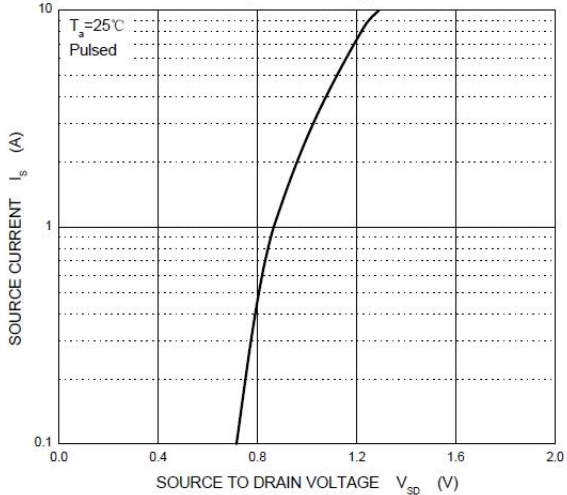
$R_{DS(ON)}$ — I_D



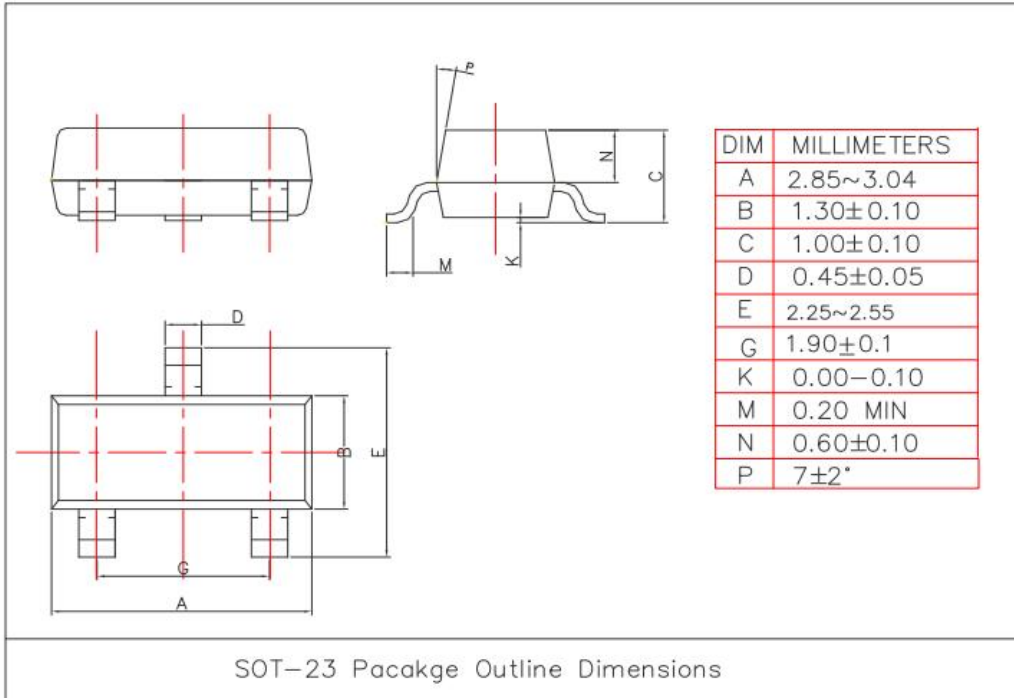
$R_{DS(ON)}$ — V_{GS}



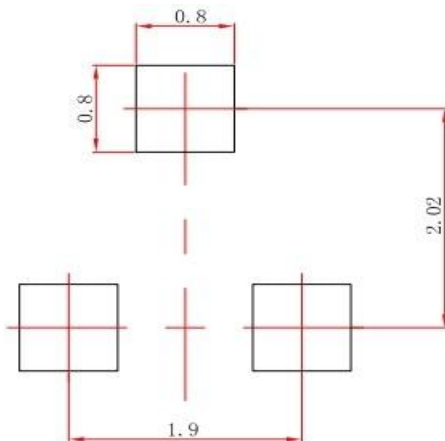
I_S — V_{SD}



»Package Outline : SOT-23



»SOT-23 FOOTPRINT:(mm)



»Ordering information

Order code	Package	Base qty	Delivery mode
CT2302M	SOT-23	3k	Tape and reel