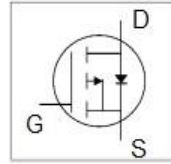


## »Features

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

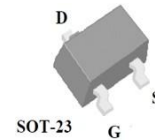
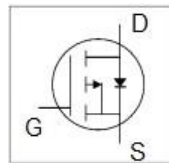


BVDSS	-12V
RDS(ON)typ	40mΩ
ID	-4.1A

## »Description

CT2305M 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<sub>j</sub>=25°C(unless otherwise specified)

Symbol	Parameter	Rating	Units
VDS	Drain-Source Voltage	-12	V
VGS	Gate-Source Voltage	±8	V
I <sub>D-Continuous</sub>	Drain Current, V <sub>GS</sub> @ 10V	-4.1	A
I <sub>DM</sub>	Pulsed Drain Current <sub>2</sub>	-16	A
P <sub>D@T<sub>A</sub>=25°C</sub>	Total Power Dissipation <sub>3</sub>	0.4	W
T <sub>STG</sub>	Storage Temperature Range	-55 to 150	°C
T <sub>J</sub>	Operating Junction Temperature Range	150	°C

## »Thermal Data

Symbol	Parameter	Value	Unit
Rthj-a	Maximum Thermal Resistance, Junction-ambients	313	°C/W

## »Electrical Characteristics@T<sub>J</sub>=25 oC(unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	VGS=0V, ID=250uA	-12	-	-	V
RDS(ON)	Static Drain-Source On-Resistance	VGS=4.5V, ID=-3.5A	-	40	50	mΩ
		VGS=-2.5V, ID=-3.0A	-	55	65	mΩ
		VGS=-1.8V, ID=-2.0A	-	90	120	mΩ
VGS(th)	Gate Threshold Voltage	VDS=VGS, ID=250uA	-0.5	-	-1	V
g <sub>fs</sub>	Forward Transconductance	VDS=5V, ID=-4.1A	6	-	-	S
I <sub>DSS</sub>	Drain-Source Leakage Current	VDS=-8V, VGS=0V	-	-	-1	uA
I <sub>GSS</sub>	Gate-Source Leakage	VGS=±8V, VDS=0V	-	-	±100	nA
Q <sub>g</sub>	Total Gate Charge	ID=-4.1A	-	4.5	-	nC
Q <sub>gs</sub>	Gate-Source Charge	VDS=-4V	-	1.2	-	nC
Q <sub>gd</sub>	Gate-Drain ("Miller") Charge	VGS=-2.5V	-	1.6	-	nC
t <sub>d(on)</sub>	Turn-on Delay Time	VDS=-4V	-	13	20	ns
t <sub>r</sub>	Rise Time	ID=3.3A	-	35	53	ns
t <sub>d(off)</sub>	Turn-off Delay Time	RG=1Ω	-	32	48	ns
t <sub>f</sub>	Fall Time	VGS=-4.5V, RL=1.2Ω	-	10	20	ns
C <sub>iss</sub>	Input Capacitance	VGS=0V	-	740	-	pF
C <sub>oss</sub>	Output Capacitance	VDS=-10V	-	290	-	pF
Crss	Reverse Transfer Capacitance	f=1.0MHz	-	190	-	pF

## »Source-Drain Diode

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V <sub>SD</sub>	Forward On Voltage <sup>2</sup>	IS=3A, VGS=0V	-	-0.75	-1.3	V

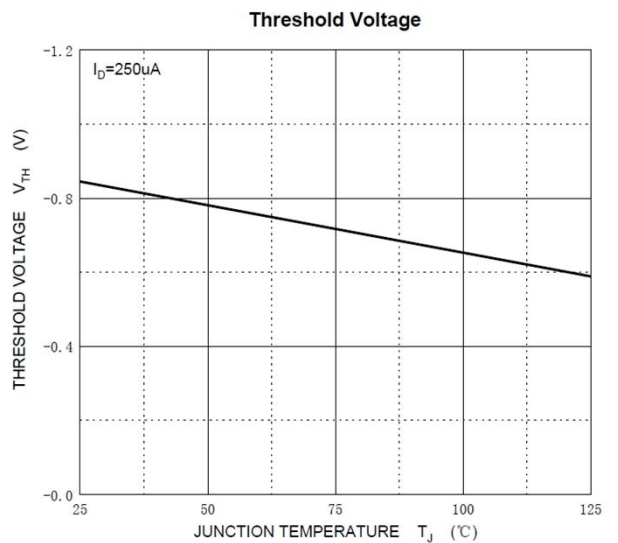
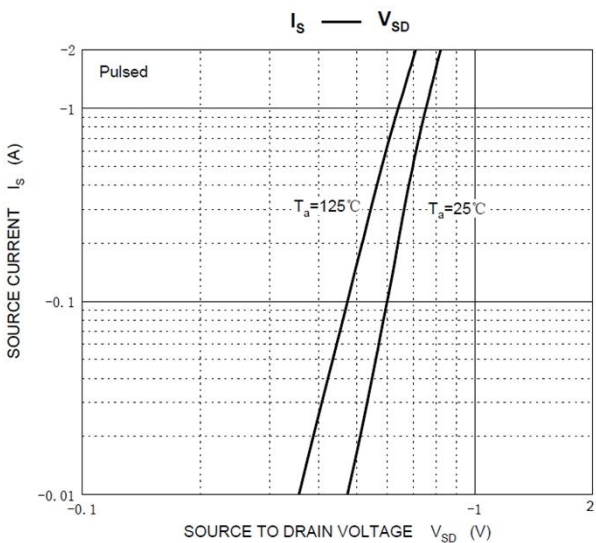
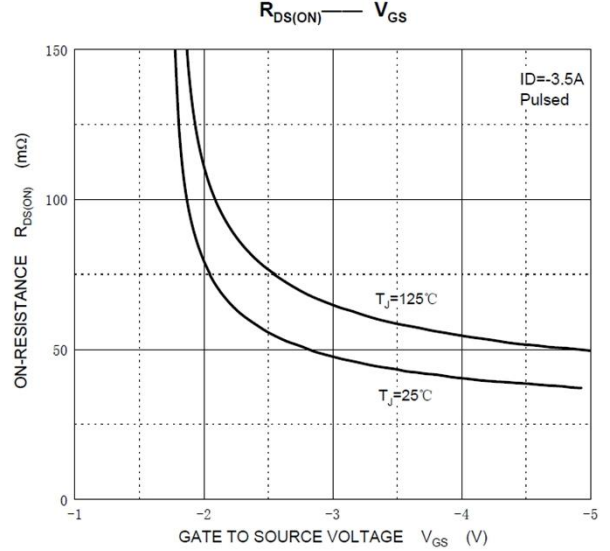
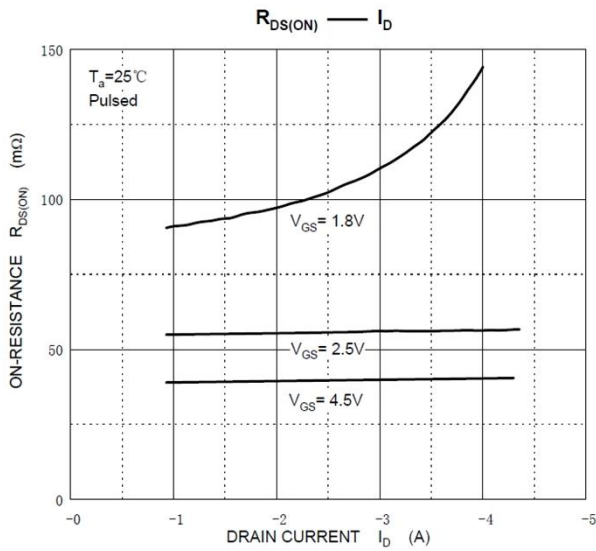
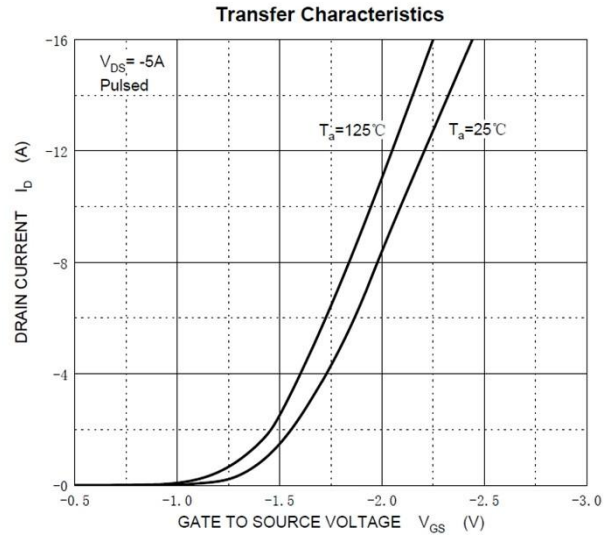
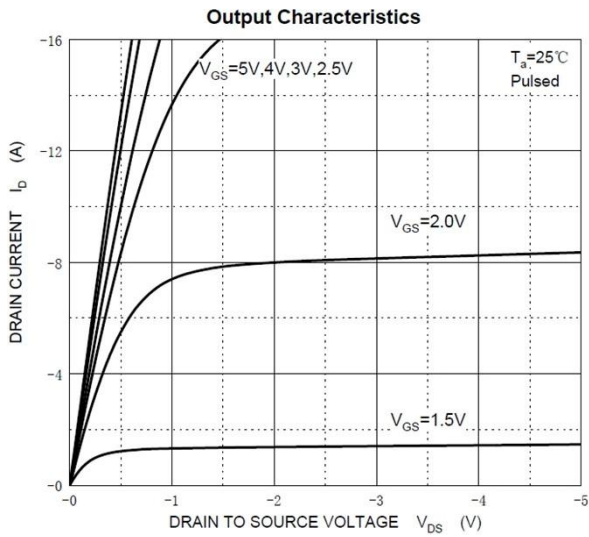
### Notes:

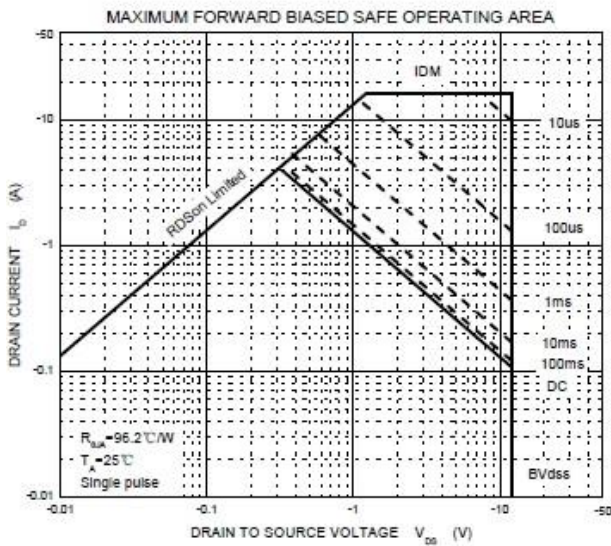
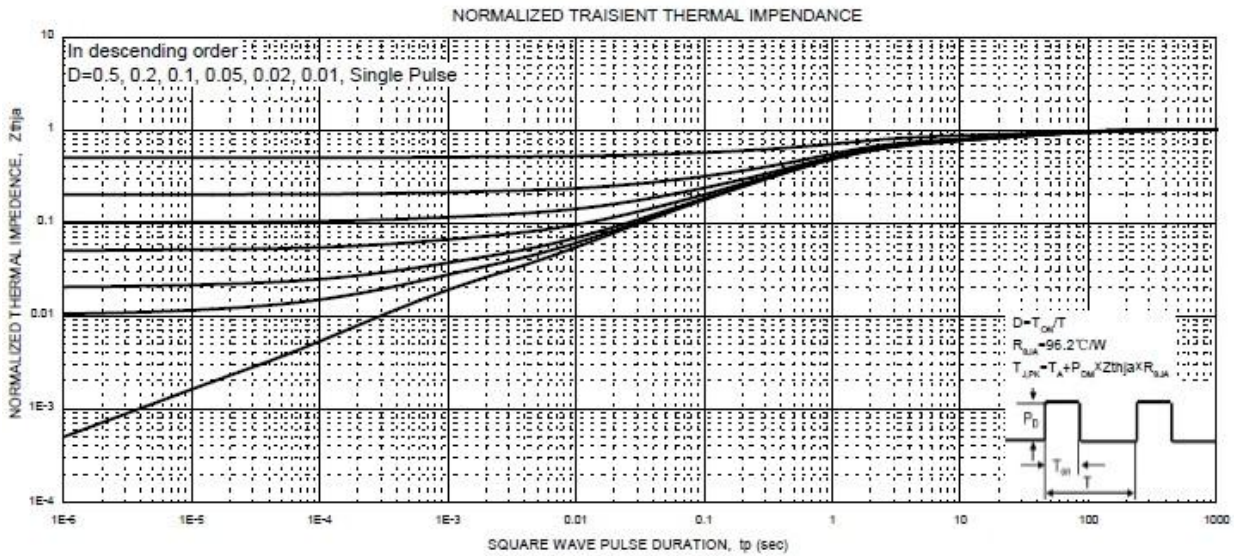
1.Pulse width limited by Max. junction temperature.

2.Pulse test

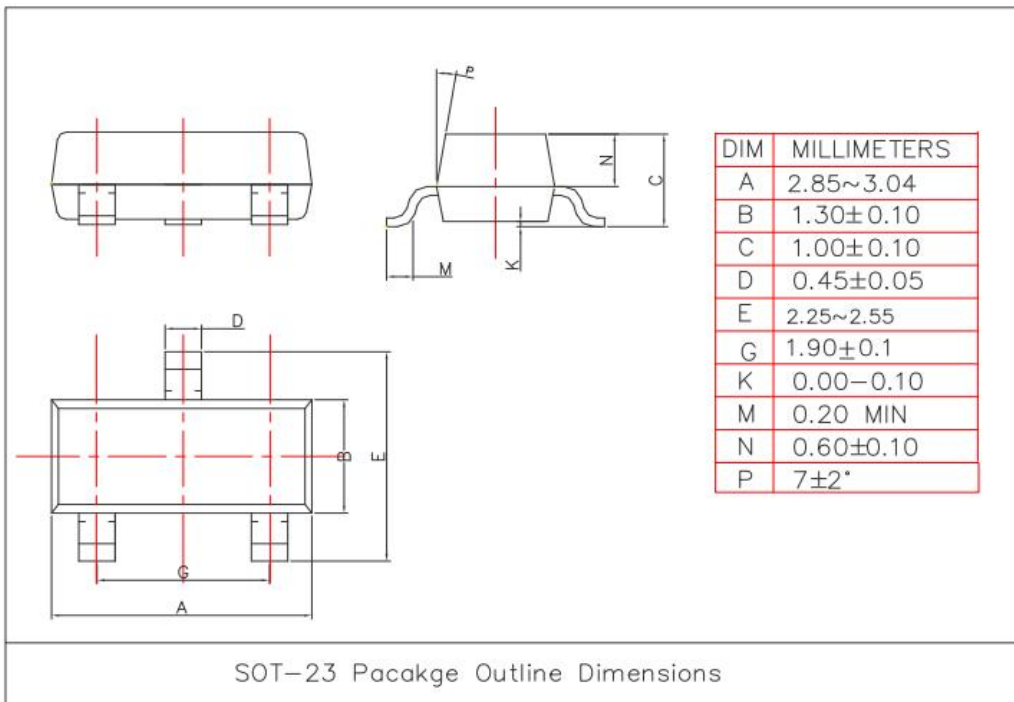
3.Surface mounted on 1 in<sup>2</sup> 2oz copper pad of FR4 board, t ≤10sec ; 300°C/W when mounted on min. copper pad.

## » Typical Performance Characteristics

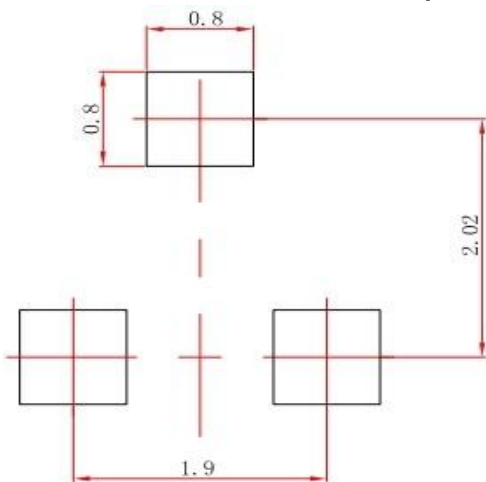




## »Package Outline : SOT-23



## »SOT-23 FOOTPRINT:(mm)



## »Ordering information

Order code	Package	Base qty	Delivery mode
CT2305M	SOT-23	3k	Tape and reel