

CMTP2419

40V P-Channel MOSFET

Product Summary

V _{(BR)DSS}	R _{DS(on)} TYP	I _D
-40V	180mΩ@-10V	-3.4A
	230mΩ@-4.5V	

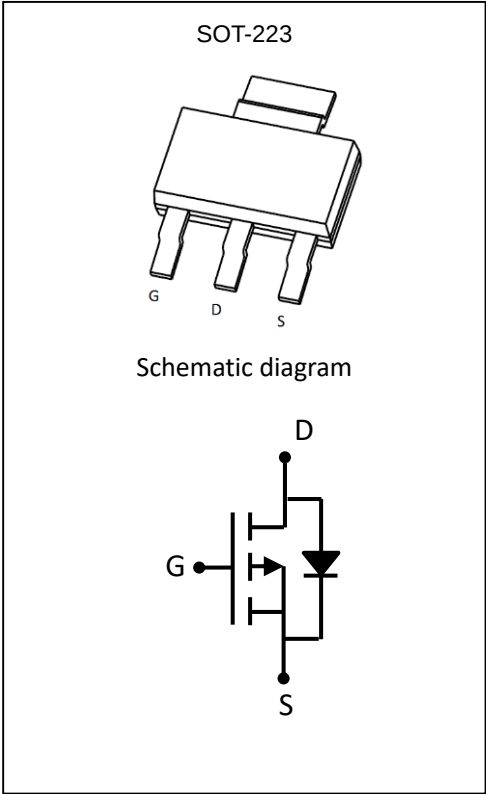
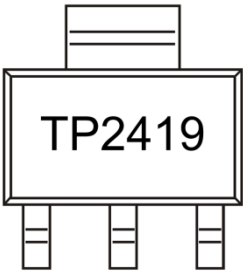
Feature

- TrenchFET Power MOSFET
- Excellent R_{DS(on)} and Low Gate Charge

Application

- DC/DC Converter
- Load Switch for Portable Devices
- Battery Switch

MARKING:



ABSOLUTE MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	-40	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current	I _D	-3.4	A
Power Dissipation	P _D	1	W
Thermal Resistance from Junction to Ambient	R _{θJA}	125	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C

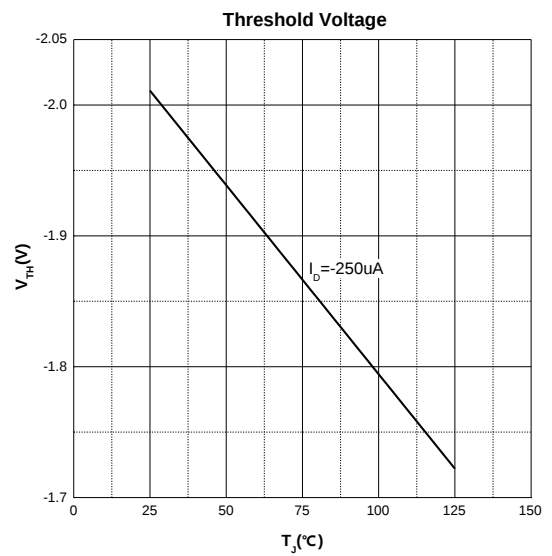
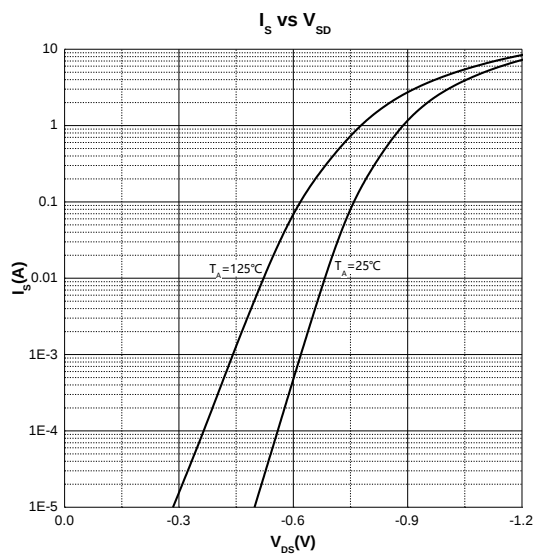
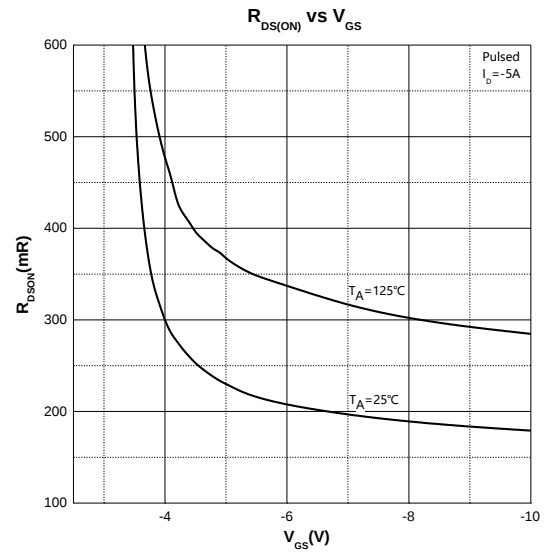
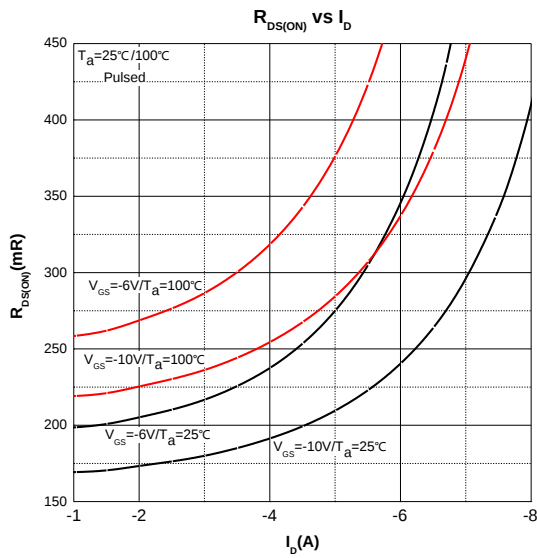
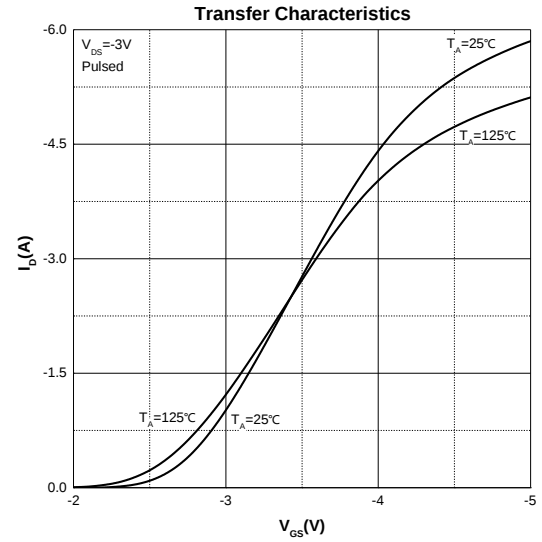
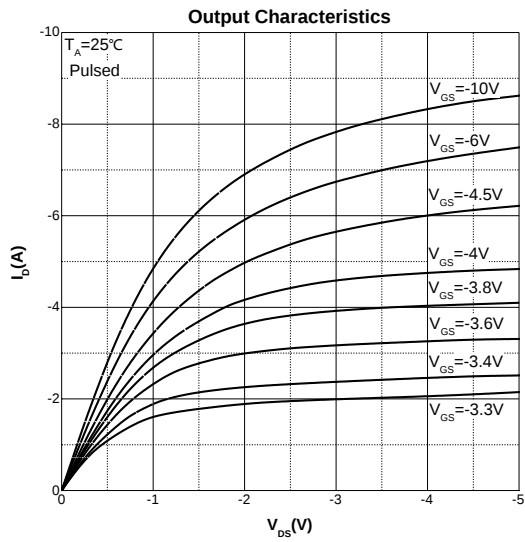
MOSFET ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =-250μA	-40			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =-40V,V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±20V, V _{DS} = 0V			±100	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-1	-2	-3	V
Drain-source on-resistance ¹	R _{DS(on)}	V _{GS} =-10V, I _D =-3.4A		180	250	mΩ
		V _{GS} =-4.5V, I _D =-2.7A		230	300	
Dynamic characteristics ²						
Input Capacitance	C _{iss}	V _{DS} =-20V,V _{GS} =0V,f =1MHz		245		pF
Output Capacitance	C _{oss}			22		
Reverse Transfer Capacitance	C _{rss}			18		
Total Gate Charge	Q _g	V _{DS} =-20V,V _{GS} =-4.5V,I _D =-1.9A		2.5		nC
Gate-Source Charge	Q _{gs}			0.65		
Gate-Drain Charge	Q _{gd}			2		
Turn-on delay time	t _{d(on)}	V _{DD} =-20V,V _{GEN} =-10V,I _D =-1.5A R _L =10Ω,R _{GEN} =1Ω		4.5		ns
Turn-on rise time	t _r			11.5		
Turn-off delay time	t _{d(off)}			12		
Turn-off fall time	t _f			8.5		
Source-Drain Diode characteristics						
Diode Forward voltage	V _{DS}	V _{GS} =0V, I _S =-2.5A		-0.95	-1.2	V

Notes:

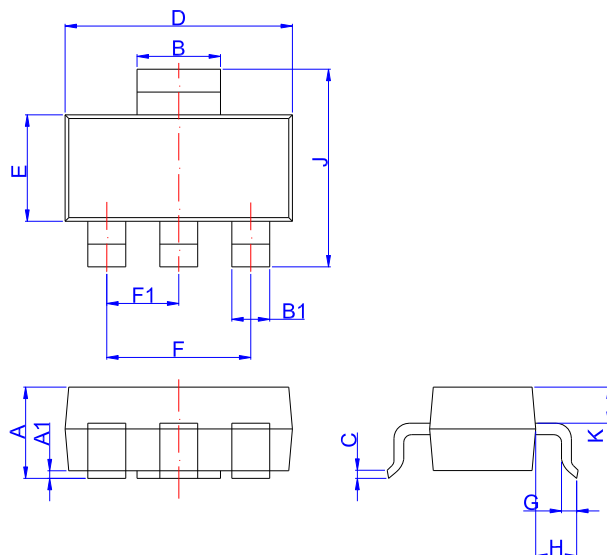
1. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production testing.

Typical Electrical Characteristics



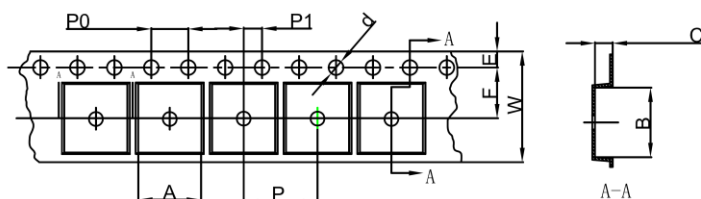
Package Mechanical Data

SOT-223



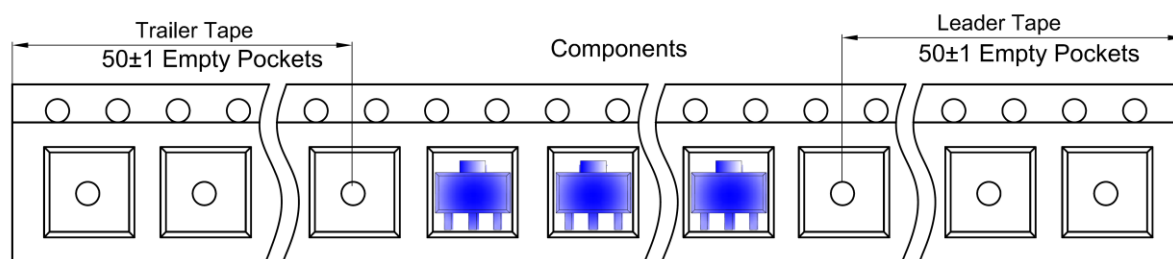
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.5	1.6	1.8	0.059	0.063	0.071
A1	0.01	0.06	0.10	0.001	0.002	0.004
B	2.9	3.0	3.1	0.114	0.118	0.122
B1	0.6	0.7	0.8	0.024	0.028	0.031
C	0.22	0.26	0.32	0.009	0.010	0.013
D	6.3	6.5	6.7	0.248	0.256	0.264
E	3.3	3.5	3.7	0.130	0.138	0.146
F		4.6			0.181	
F1		2.3			0.091	
G	0.7	0.9	1.1	0.028	0.035	0.043
H	1.5	1.75	2.0	0.059	0.069	0.079
J	6.7	7.0	7.3	0.264	0.276	0.287
K	0.8	0.9	1.0	0.031	0.035	0.039

SOT-223 Embossed Carrier Tape

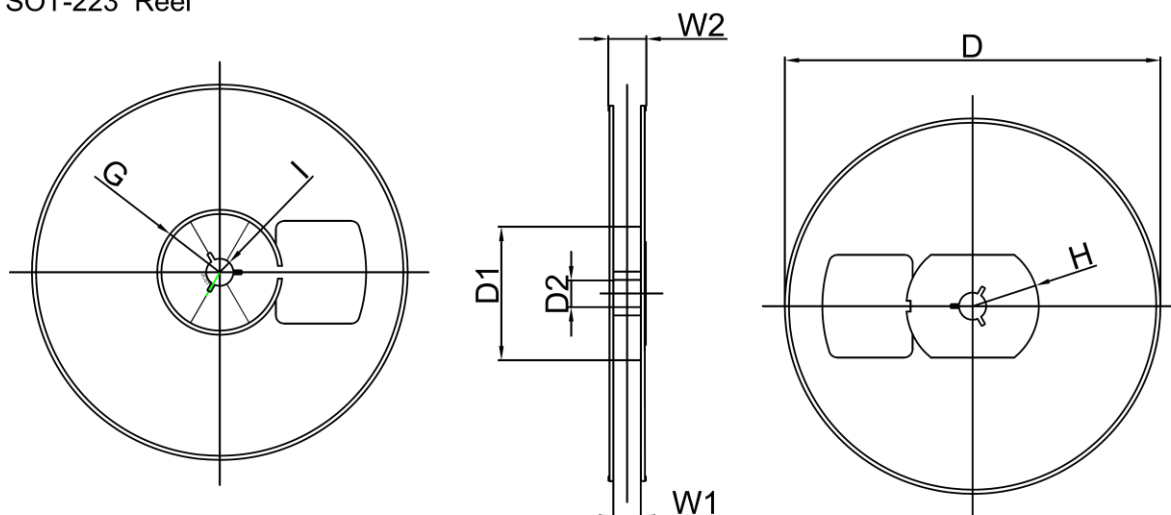


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-223	6.765	7.335	1.88	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

SOT-223 Tape Leader and Trailer



SOT-223 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø180.00	60.00	13.00	R30.00	R32.00	R6.50	13.20	16.50

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
1000 pcs	7 inch	10,000 pcs	203×203×195	40,000 pcs	438×438×220	