



SOT-23 Plastic-Encapsulate MOSFET

CC8810 N-Channel Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
20V	14mΩ@10V	7A
	16mΩ@4.5V	
	17mΩ@3.8V	
	23mΩ@2.5V	
	48mΩ@1.8V	

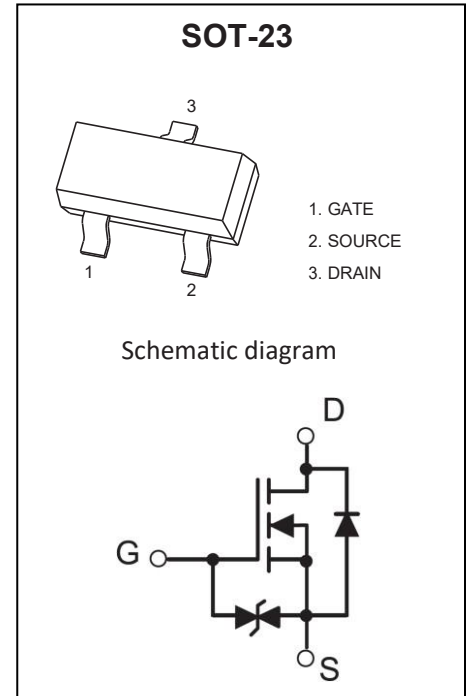
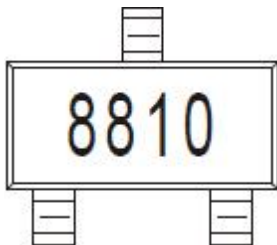
Feature

- Surface Mount Package
- Low $R_{DS(on)}$
- ESD Protected Gate
- AEC Q101 Qualified

Application

- Load/Power Switching
- Small Portable Electronics

MARKING



ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±12	
Continuous Drain Current	I_D	7	A
Pulsed Drain Current	I_{DM}	30	
Maximum Power Dissipation	P_D	1.5	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	83.3	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-65~ +150	

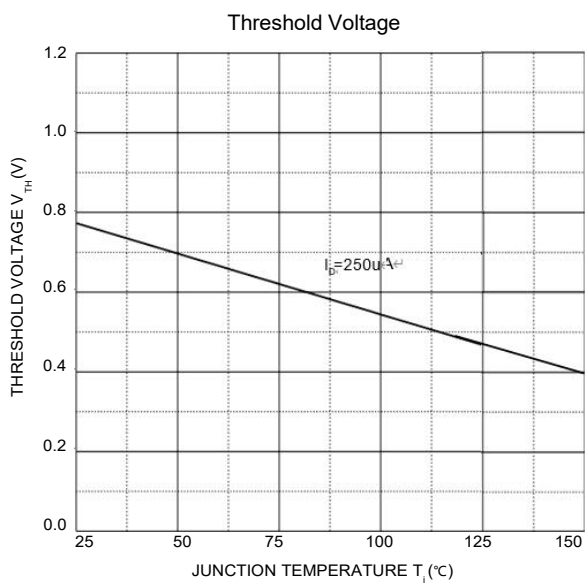
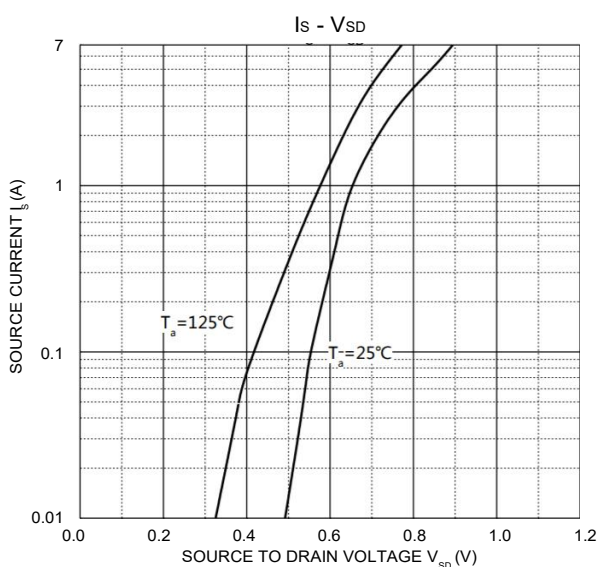
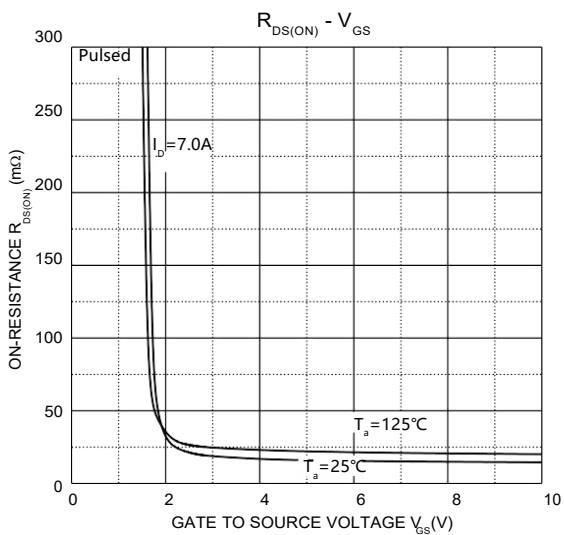
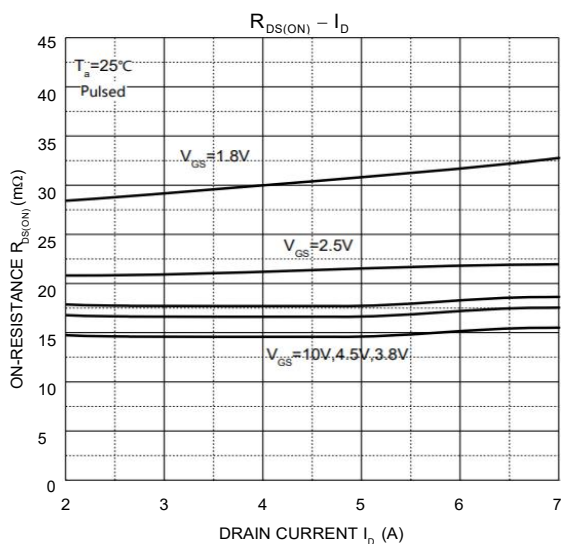
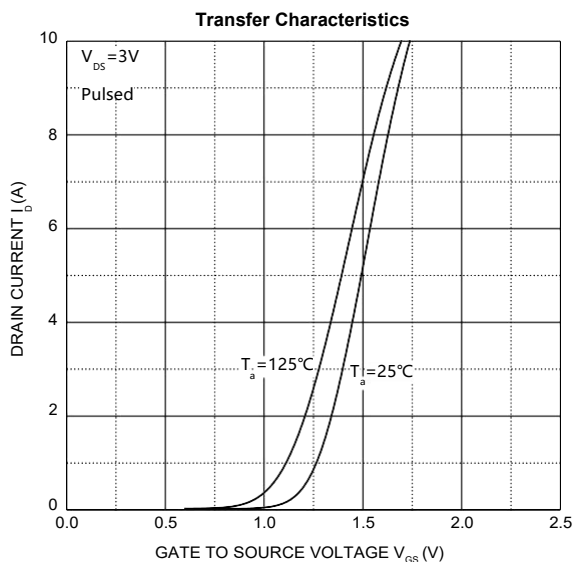
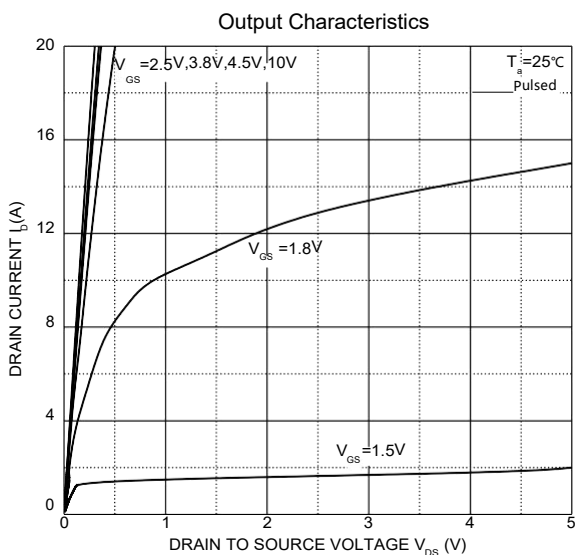
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =16V, V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±4.5V, V _{DS} = 0V			±1	μA
		V _{GS} =±8.0V, V _{DS} = 0V			±10	μA
Gate threshold voltage ⁽¹⁾	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.4	0.8	1.0	V
Drain-source on-resistance ⁽¹⁾	R _{DS(on)}	V _{GS} =10V, I _D =7.0A		14	19	mΩ
		V _{GS} =4.5V, I _D =6.6A		16	22	
		V _{GS} =3.8V, I _D =6.0A		17	26	
		V _{GS} =2.5V, I _D =5.5A		23	33	
		V _{GS} =1.8V, I _D =3.0A		48	70	
Forward tranconductance ⁽¹⁾	g _{FS}	V _{DS} =5.0V, I _D =7.0A	9	13.6		S
Dynamic characteristics⁽²⁾						
Total gate charge	Q _g	V _{DS} =10V, V _{GS} =4.5V, I _D =7.0A		15		nC
Gate-source charge	Q _{gs}			0.8		
Gate-drain charge	Q _{gd}			3.2		
Input Capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0V, f =1MHz		740		pF
Output Capacitance	C _{oss}			141		
Reverse Transfer Capacitance	C _{rss}			136		
Gate resistance	R _g	V _{DS} =0V, V _{GS} =0V, f =1MHz		2		Ω
SWITCHING PARAMETERS⁽²⁾						
Turn-on delay time	t _{d(on)}	V _{GS} =5V, VDD=10V, R _L =1.35Ω, R _{GEN} =3Ω		6		ns
Turn-on rise time	t _r			13		
Turn-off delay time	t _{d(off)}			52		
Turn-off fall time	t _f			16		
Source-Drain Diode characteristics⁽¹⁾						
Body diode voltage	V _{SD}	I _S =1A, V _{GS} =0V		0.77	1.2	V

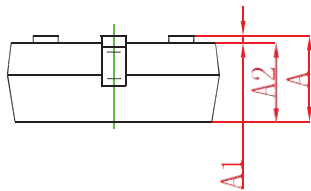
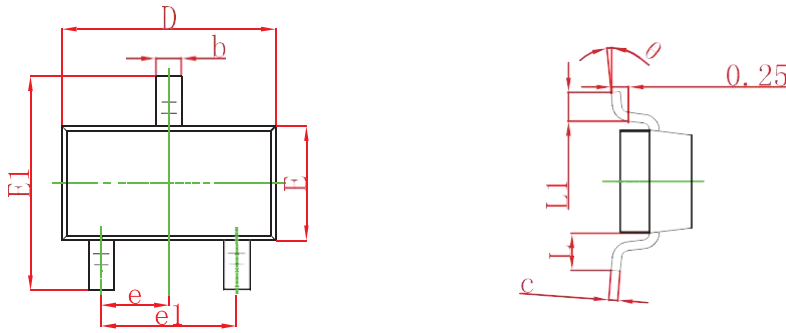
Notes:

1. Pulse Test : Pulse width≤300μs, duty cycle≤0.5%.
2. Guaranteed by design, not subject to production testing.

Typical Characteristics

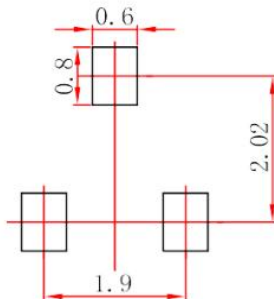


SOT-23 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	g°

SOT-23 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

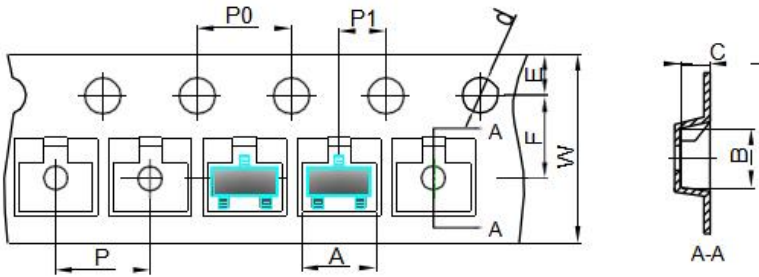
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SOT-23 Tape and reel

SOT-23 Embossed Carrier Tape



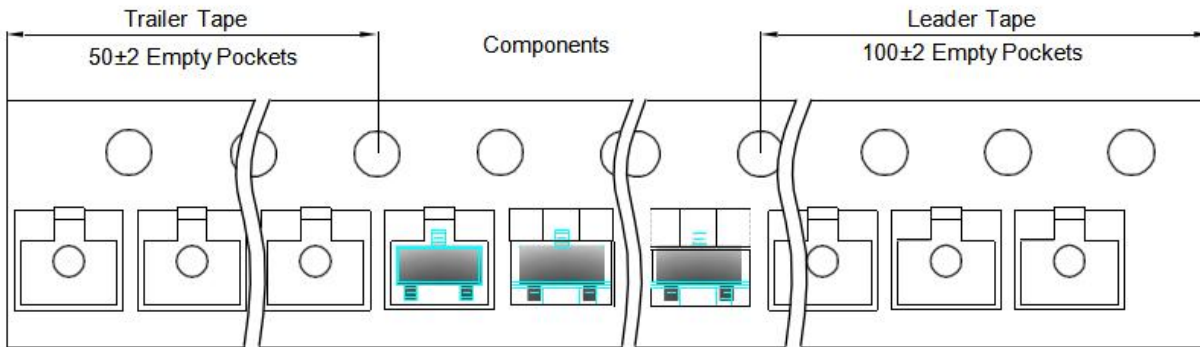
Packaging Description:

SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

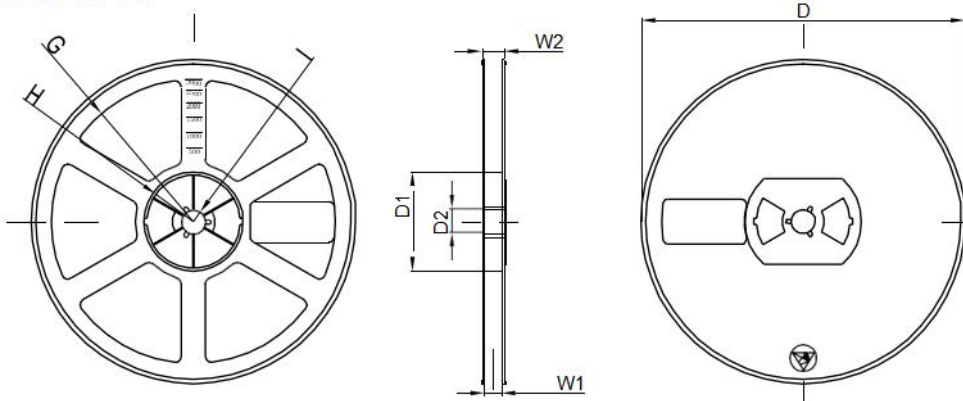
Dimensions are in millimeter

Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer



SOT-23 Reel



Dimensions are in millimeter

Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	30,000 pcs	203×203×195	120,000 pcs	438×438×220	

Date of change	Rev #	revise content
2023/03/07	A/0	/