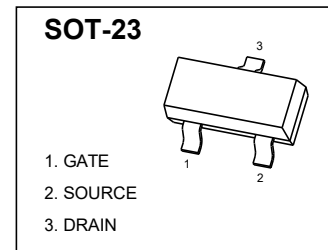




SOT-23 Plastic-Encapsulate MOSFETS

CC3401 P-Channel Enhancement Mode Field Effect Transistor

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-30 V	65mΩ@-10V	-4.2A
	75mΩ@-4.5V	
	90mΩ@-2.5V	



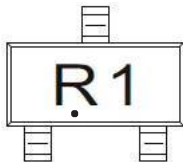
FEATURE

- High dense cell design for extremely low $R_{DS(ON)}$.
- Exceptional on-resistance and maximum DC current capability
- AEC-Q101 qualified

APPLICATION

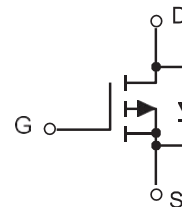
- Load/Power Switching
- Interfacing Switching

MARKING



R1=Device code
Solid dot = Green molding compound device,if none,the normal device.

Equivalent Circuit



Maximum ratings ($T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	-4.2	A
Pulsed Drain Current *	I_{DM}	-16.8	A
Power Dissipation	P_D	350	mW
Thermal Resistance from Junction to Ambient (t<5s)	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Operation Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	$^\circ\text{C}$

* $T_C=25^\circ\text{C}, P_w \leq 10\mu\text{s}, \text{Duty cycle} \leq 1\%$.

MOSFET ELECTRICAL CHARACTERISTICS

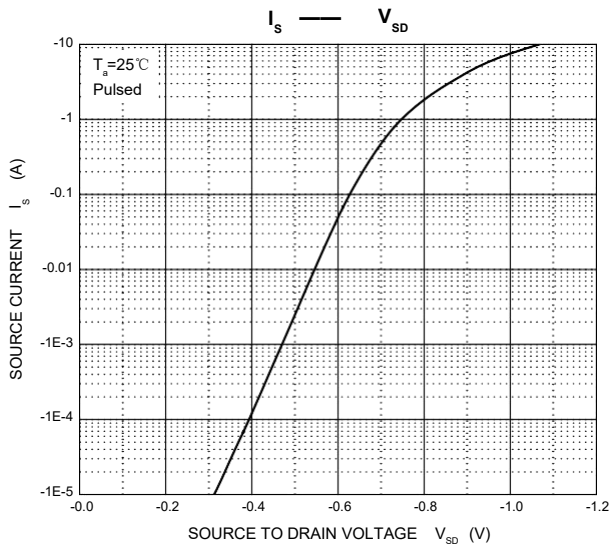
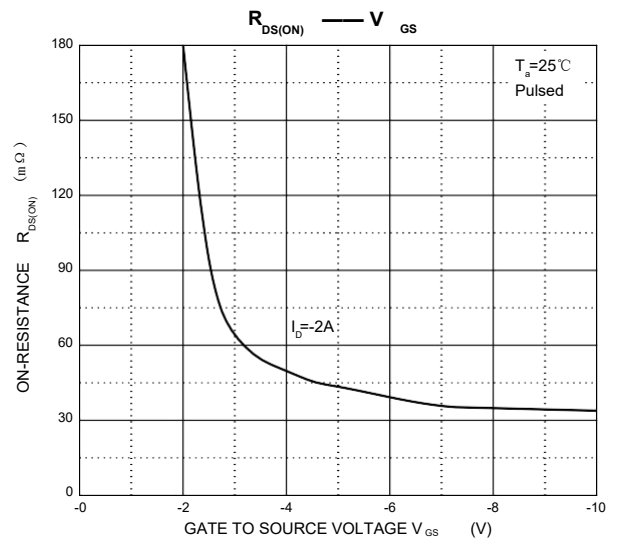
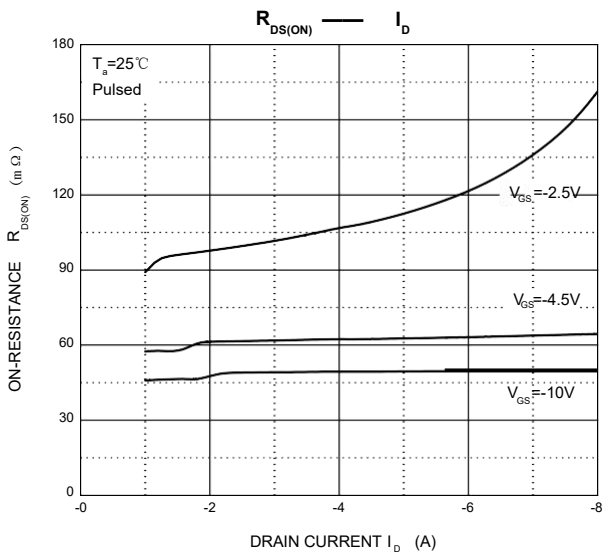
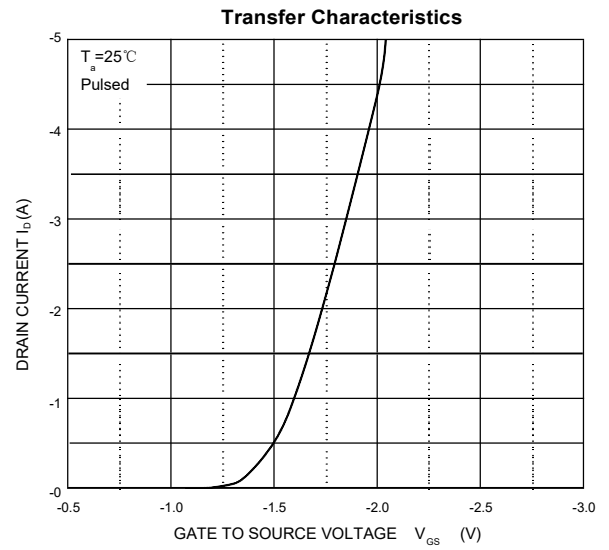
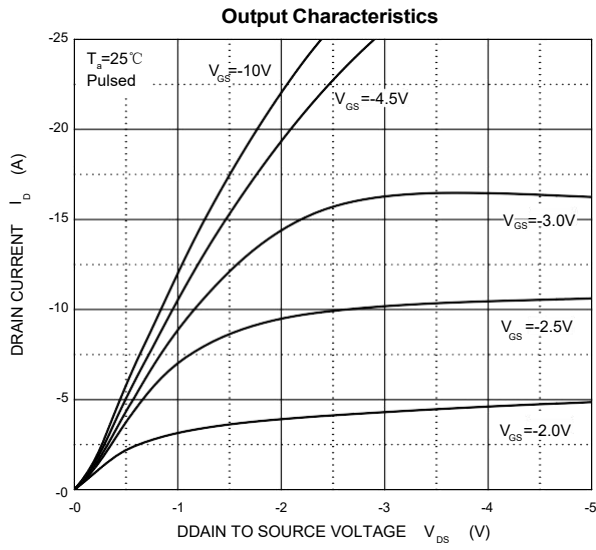
$T_a=25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA
Gate-source leakage current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$			± 100	nA
On characteristics						
Drain-source on-resistance (note 1)	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -4.2A$		50	65	m Ω
		$V_{GS} = -4.5V, I_D = -4A$		60	75	m Ω
		$V_{GS} = -2.5V, I_D = -1A$		75	90	m Ω
Forward transconductance (note 1)	g_{FS}	$V_{DS} = -5V, I_D = -5A$	7			S
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.7	-0.9	-1.3	V
Dynamic characteristics (note 2)						
Input capacitance	C_{iss}	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$		954		pF
Output capacitance	C_{oss}			115		pF
Reverse transfer capacitance	C_{rss}			77		pF
Switching characteristics (note 2)						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = -10V, V_{DS} = -15V,$ $R_L = 3.6\Omega, R_{GEN} = 6\Omega$			6.3	ns
Turn-on rise time	t_r				3.2	ns
Turn-off delay time	$t_{d(off)}$				38.2	ns
Turn-off fall Time	t_f				12	ns
Drain-source diode characteristics and maximum ratings						
Diode forward voltage (note 1)	V_{SD}	$I_S = -1A, V_{GS} = 0V$			-1	V

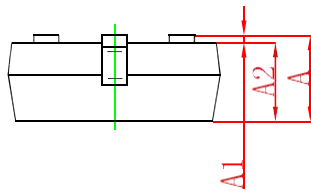
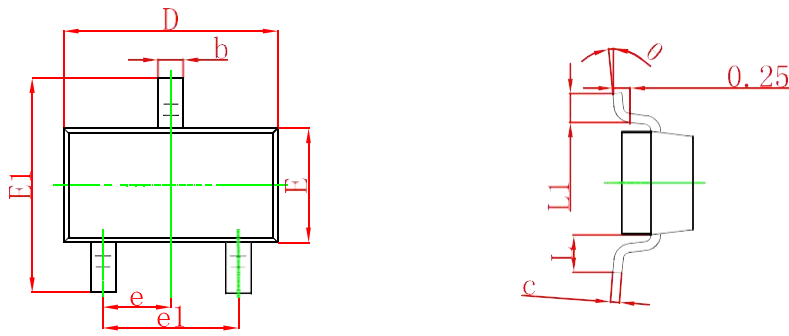
Note :

1. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
2. These parameters have no way to verify.

Typical Characteristics

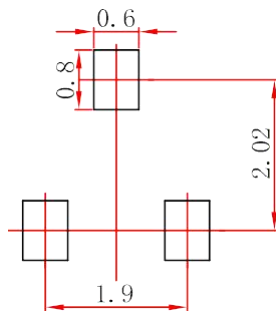


SOT-23 Package Outline Dimensions



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°	8°

SOT-23 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

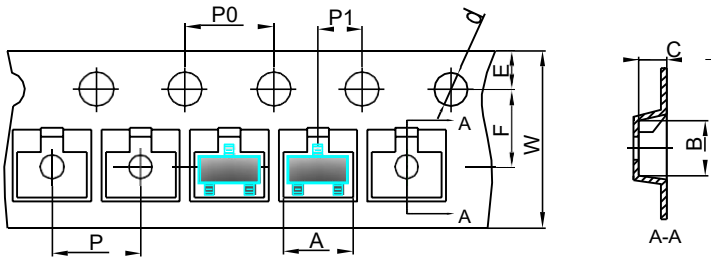
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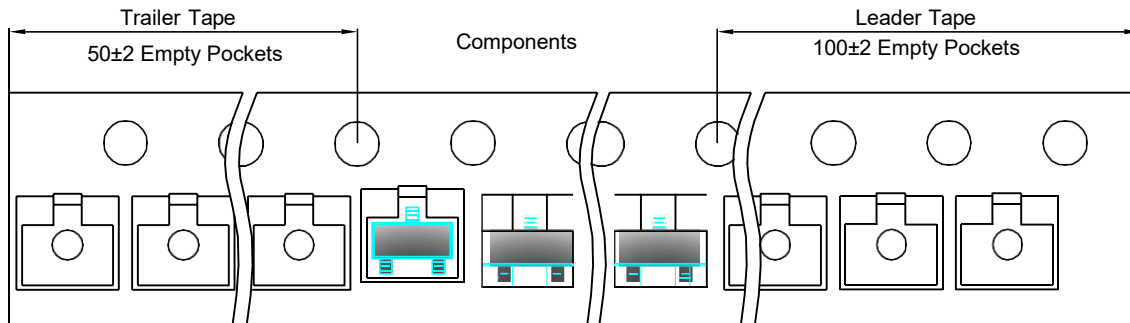
SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape

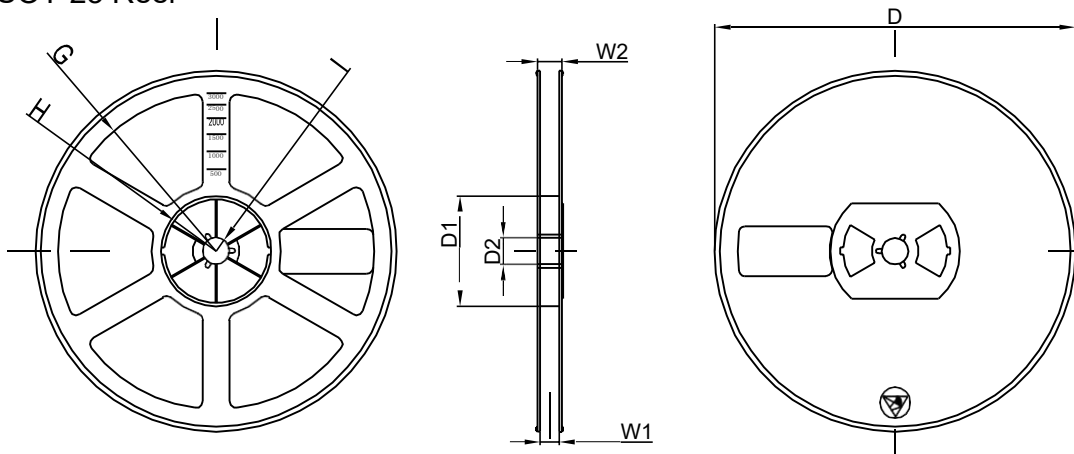


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

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	