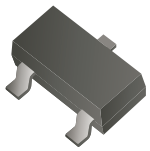
MOSFET

CJ3401-HF

P-Channel
RoHS Device
Halogen Free

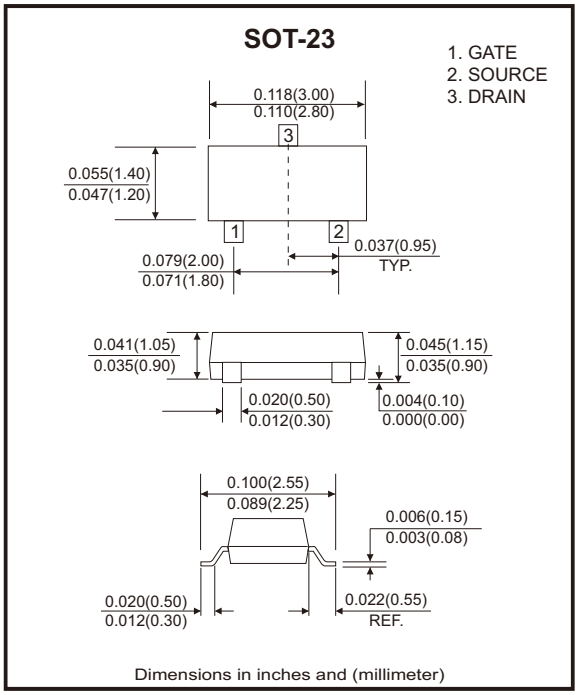


Features

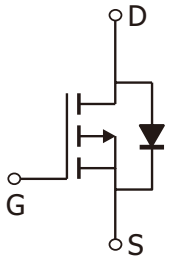
- High dense cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability.

Mechanical data

- Case: SOT-23, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.



Circuit Diagram



Maximum Ratings (at Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Units
Maximum drain-source voltage	V_{DS}	-30	V
Maximum gate-source voltage	V_{GS}	±12	V
Maximum continuous drain current	I_D	-4.2	A
Maximum power dissipation	P_D	350	mW
Thermal resistance from junction to ambient (t<5s)	$R_{\theta JA}$	357	°C/W
Junction temperature	T_J	150	°C
Storage temperature	T_{STG}	-55 to +150	°C

Electrical Characteristics (at T_A=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS}=0V , I_D=-250μA	-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}=±12V , V_{DS}=0V			±100	nA
On characteristics						
Drain-source on-resistance (Note 1)	$R_{DS(on)}$	V_{GS} =-10V , I_D=-4.2A		48	65	mΩ
		V_{GS}=-4.5V , I_D=-4A		62	75	mΩ
		V_{GS}=-2.5V , I_D=-1A		88	90	mΩ
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=-250μA	-0.7		-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	td(on)	V_{GS}=-10V , V_{DS}=-15V R_L=3.6Ω , R_{GEN}=6Ω			6.3	nS
Turn-on rise time	tr				3.2	nS
Turn-off delay time	td(off)				38.2	nS
Turn-off fall time	tr				12	nS
Drain-source diode characteristics and maximum ratings						
Diode forward voltage (Note 1)	V_{SD}	I_S=-1A , V_{GS}=0V			-1	V

Notes:
1. Pulse Test: Pulse width≤300μs, duty cycle≤2%.
2. These parameters have no way to verify.

Rating and Characteristic Curves (CJ3401-HF)

Fig.1 - Output Characteristics

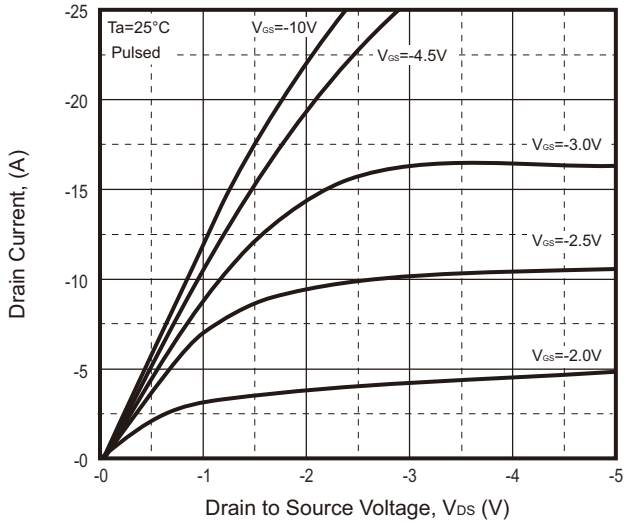


Fig.2 - Transfer Characteristics

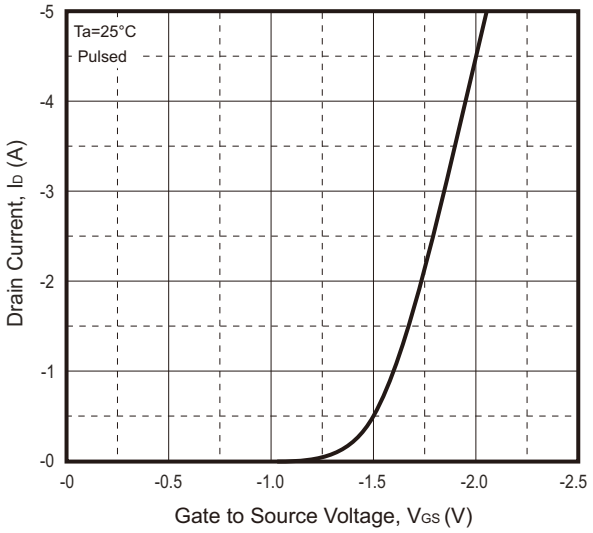


Fig.3 - $R_{DS(ON)}$ — I_D

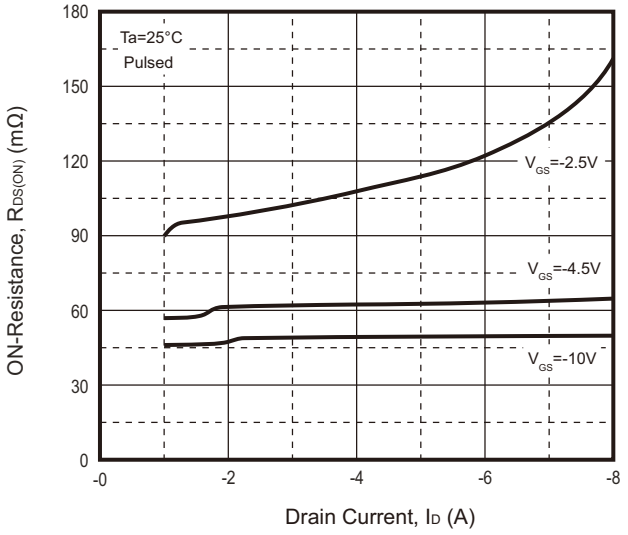


Fig.4 - $R_{DS(ON)}$ — V_{GS}

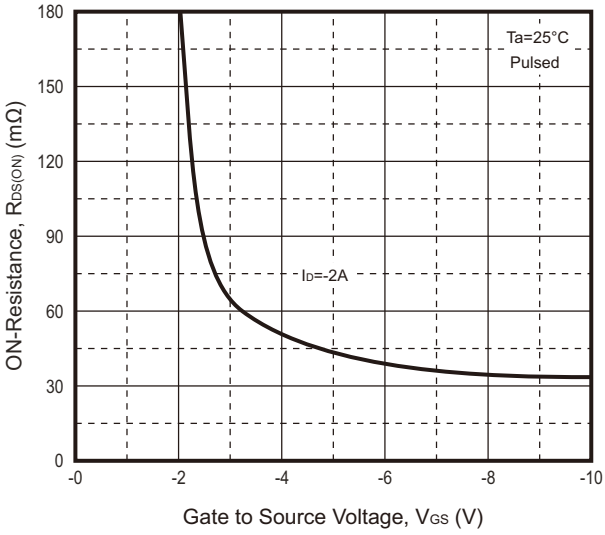
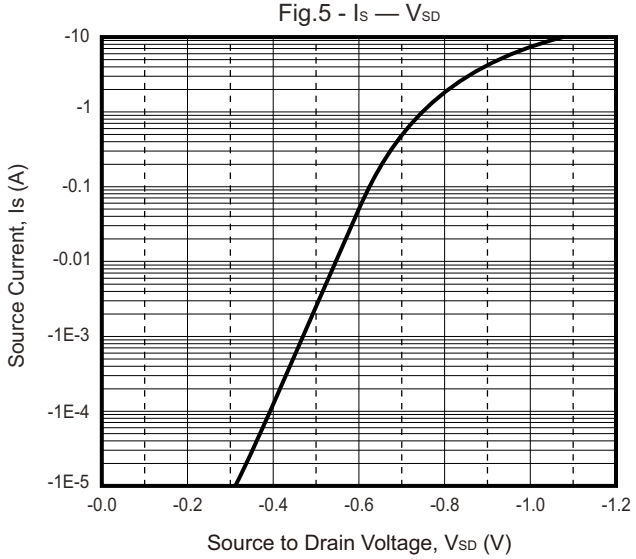
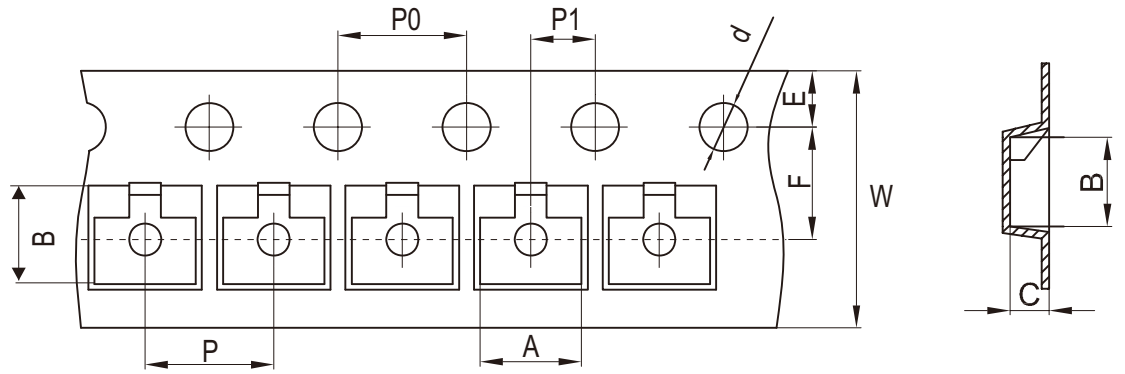
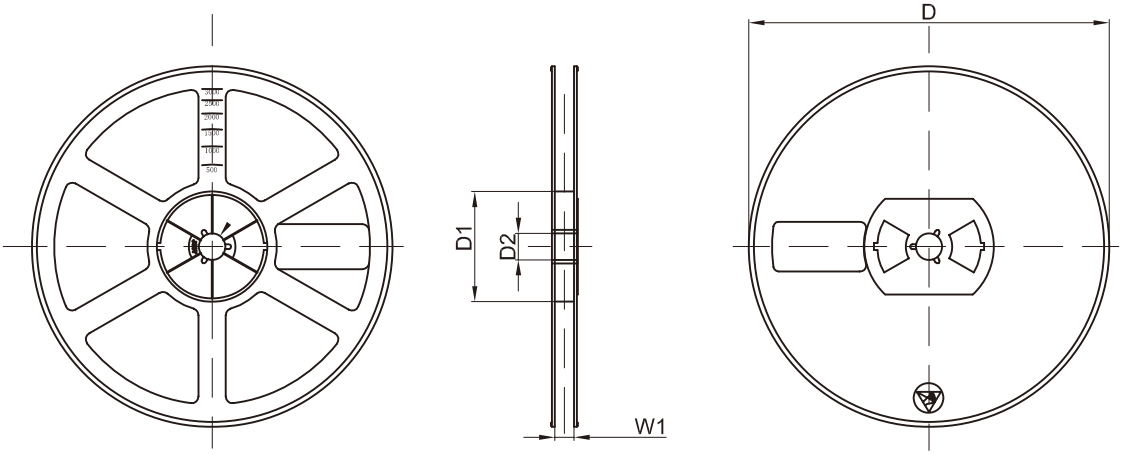


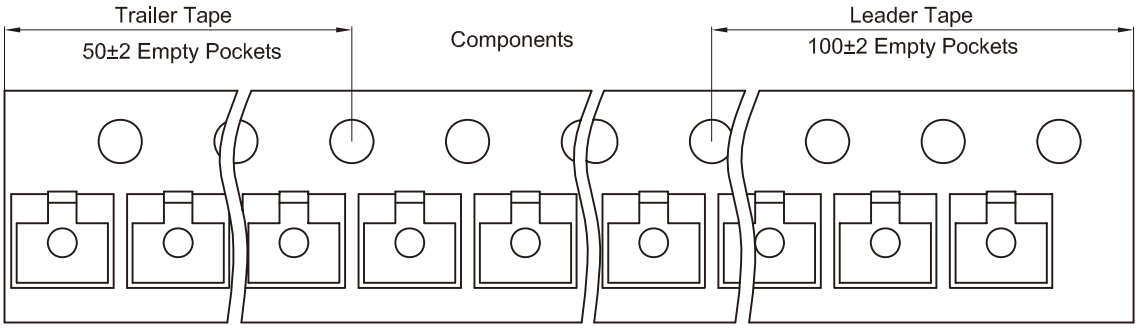
Fig.5 - I_S — V_{SD}



Reel Taping Specification





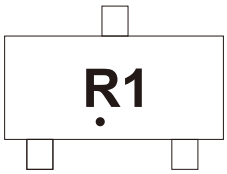


	SYMBOL	A	B	C	d	D	D_1	D_2
SOT-23	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 + 0.10	178 ± 2.0	54.40 ± 1.0	13.00 ± 1.0
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 + 0.004	7.008 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

	SYMBOL	E	F	P	P_0	P_1	W	W_1
SOT-23	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	8.00 + 0.30 / - 0.10	9.50 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.158 ± 0.004	0.158 ± 0.004	0.079 ± 0.004	0.315 + 0.012 / - 0.004	0.374 ± 0.039

Marking Code

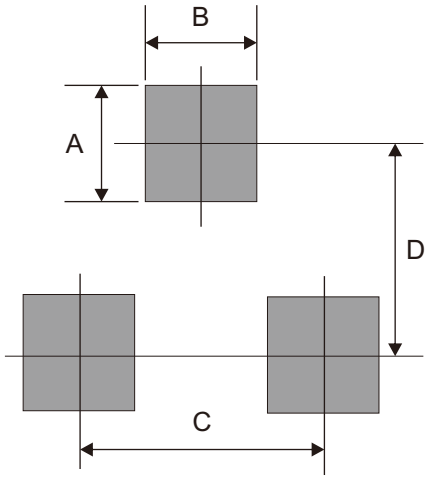
Part Number	Marking Code
CJ3401-HF	R1



Solid dot = Control code

Suggested P.C.B. PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.80	0.031
B	0.60	0.024
C	1.90	0.075
D	2.02	0.080



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-23	3,000	7