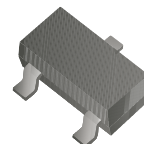


CJ3415-HF

P-Channel

RoHS Device

Halogen Free



Features

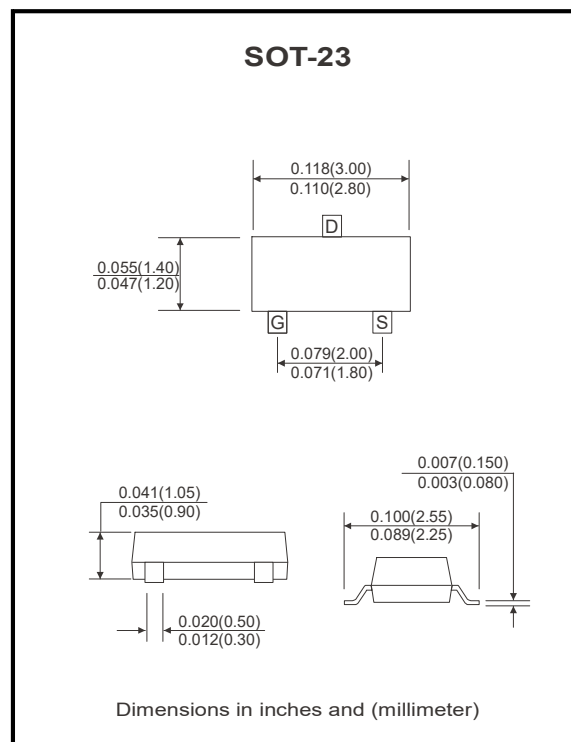
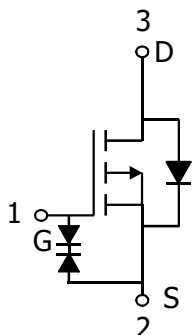
- Extremely low $R_{DS(ON)}$.
- Low gate charge, low gate voltages.

Mechanical data

- Case: SOT-23, molded plastic.
- Terminal: Solderable per MIL-STD-750, method 2026.
- Mounting position: Any.

Circuit Diagram

1. G : Gate
2. S : Source
3. D : Drain



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

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	-20	V
Gate-source voltage	V_{GS}	± 8	V
Continuous drain current ($t \leq 10s$)	I_D	-4.0	A
Maximum power dissipation ($t \leq 10s$)	P_D	0.35	W
Thermal resistance from junction to ambient	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Operating junction temperature range	T_J	-40 to +150	$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics (at $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameters						
Drain-source breakdown voltage	BV_{DSS}	$V_{GS} = 0V, I_D = -250\mu A$	-20			V
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.3		-1	
Gate-body leakage current	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 8V$			± 10	μA
		$V_{DS} = 0V, V_{GS} = \pm 4.5V$			± 1	
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -16V, V_{GS} = 0V$			-1	
Drain-source on-state resistance (Note 1)	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -4A$			0.050	Ω
		$V_{GS} = -2.5V, I_D = -4A$			0.060	
		$V_{GS} = -1.8V, I_D = -2A$			0.073	
Forward transconductance (Note 2)	g_{FS}	$V_{DS} = -5V, I_D = -4A$	8			S
Body diode voltage (Note 2)	V_{SD}	$I_S = -1A, V_{GS} = 0V$			-1	V
Dynamic Parameters (Note 3)						
Input capacitance	C_{iss}	$V_{DS} = -10V, V_{GS} = 0V, f = 1MHz$		1450		pF
Output capacitance	C_{oss}			205		
Reverse transfer capacitance	C_{rss}			160		
Gate resistance	R_g	$V_{DS} = 0V, V_{GS} = 0V, f = 1MHz$		6.5		Ω
Switching Characteristics						
Total gate charge	Q_g	$V_{DS} = -10V, V_{GS} = -4.5V, I_D = -4A$		17.2		nC
Gate-source charge	Q_{gs}			1.3		
Gate-drain charge	Q_{gd}			4.5		
Turn-on delay time (Note 3)	$t_{d(on)}$	$V_{DS} = -10V, V_{GS} = -4.5V, R_{GEN} = 3\Omega, R_L = 2.5\Omega$		9.5		nS
Turn-on rise time (Note 3)	t_r			17		
Turn-off delay time (Note 3)	$t_{d(off)}$			94		
Turn-off fall time (Note 3)	t_f			35		

Notes: 1. Repetitive rating, pulse width limited by junction temperature.
2. Pulse test: Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$
3. These parameters have no way to verify

Typical Rating and Characteristic Curves (CJ3415-HF)

Fig.1 - Output Characteristics

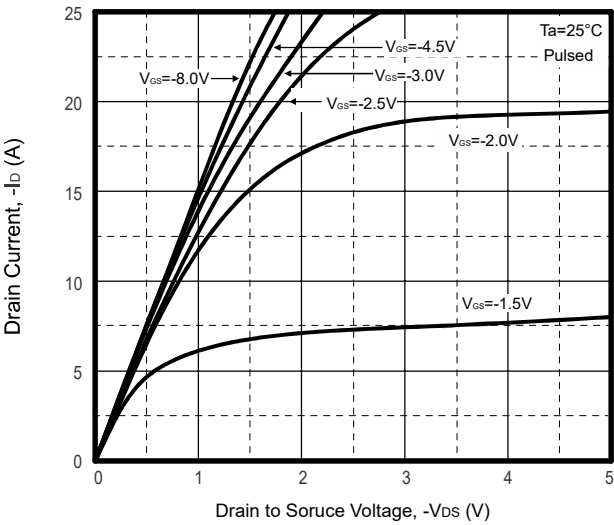


Fig.2 - Transfer Characteristics

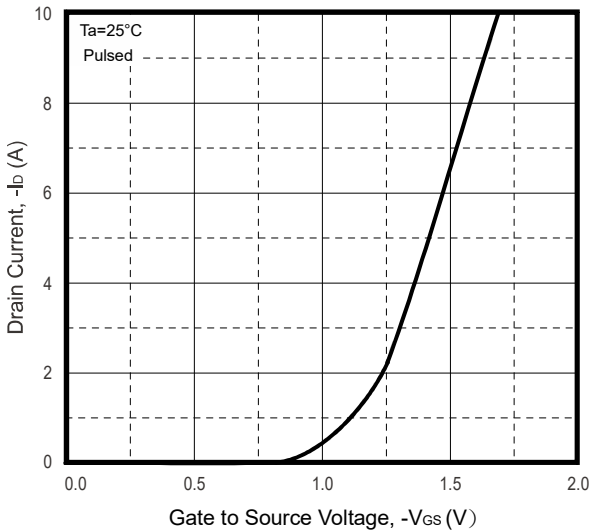


Fig.3 - $R_{DS(ON)} - I_D$

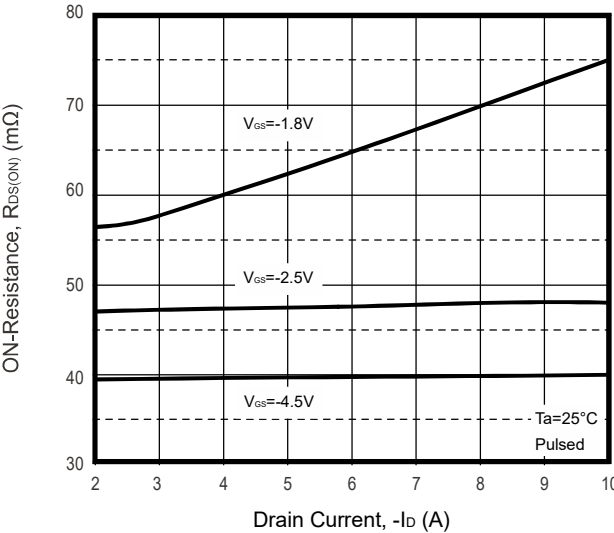


Fig.4- $R_{DS(ON)} - V_{GS}$

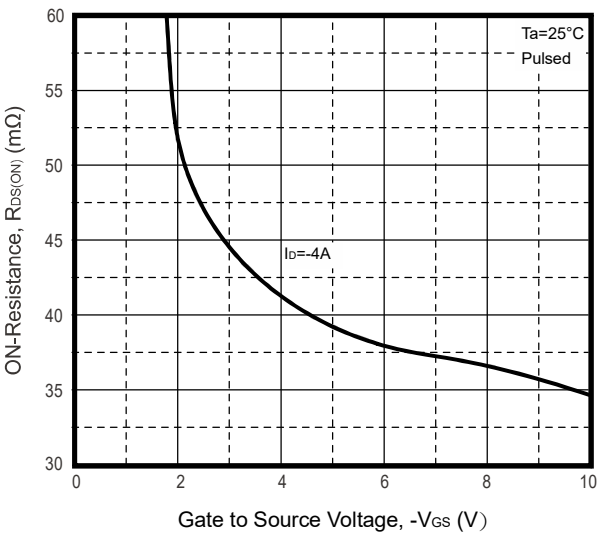
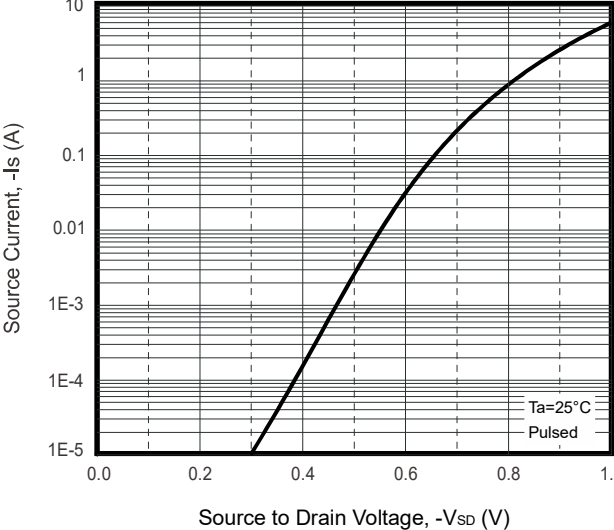
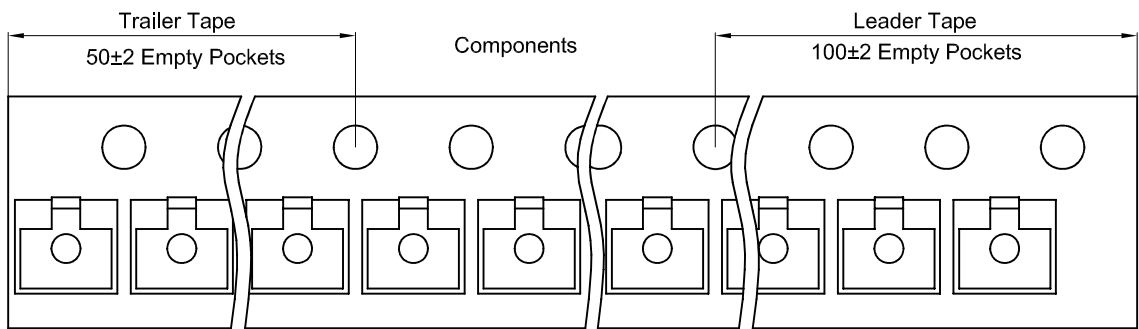
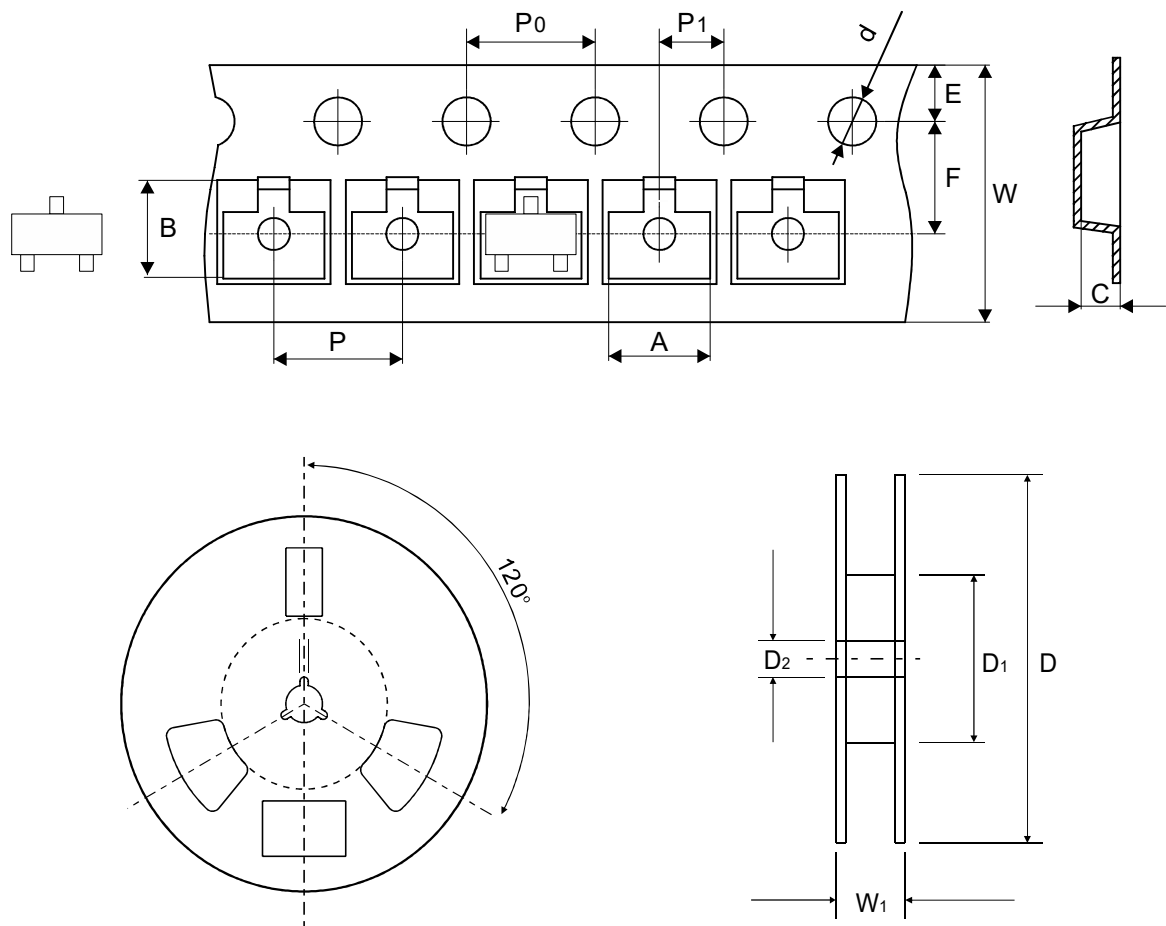


Fig.5 - $I_S - V_{SD}$



Reel Taping Specification

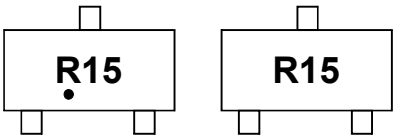


SOT-23	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 ± 0.10	178.00 ± 2.00	54.40 ± 1.00	13.00 ± 1.00
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 ± 0.004	7.008 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

SOT-23	SYMBOL	E	F	P	P0	P1	W	W1
	(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	12.30 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.315 + 0.012 / - 0.004	0.484 ± 0.039

Marking Code

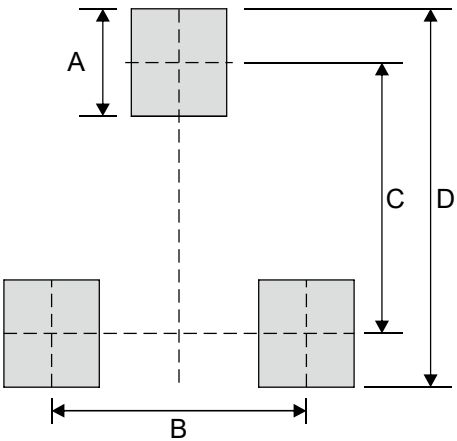
Part Number	Marking Code
CJ3415-HF	R15



Solid dot = Control code

Suggested P.C.B. PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.80	0.031
B	1.90	0.075
C	2.02	0.080
D	2.82	0.111



Standard Packaging

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