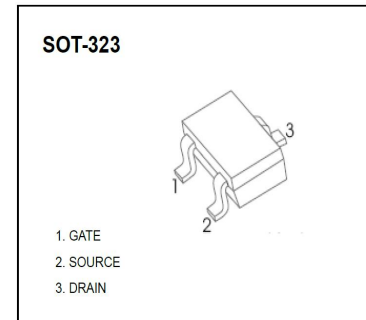




AD-CJ3134KW Plastic-Encapsulated MOSFET

AD-CJ3134KW N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on), max}$	I_D
20V	380mΩ @ 4.5V	0.75A
	450mΩ @ 2.5V	
	800mΩ @ 1.8V	



FEATURES

- Low $R_{DS(ON)}$
- Low threshold
- Fast switching speed
- AEC-Q101 qualified

APPLICATIONS

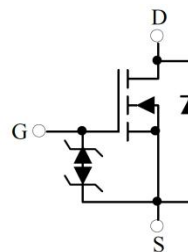
- Ideal for Load Switch
- Battery operated systems
- Power supply converter circuits

MARKING



34K = Device code

EQUIVALENT CIRCUIT



MAXIMUM RATINGS ($T_j = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	20	V
Gate-source voltage	V_{GS}	± 12	V
Continuous drain current	I_D	0.75	A
Pulsed drain current	$I_{DM}^{1)}$	3	A
Power dissipation	P_D	200	mW
Thermal resistance from junction to ambient	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Operating junction and storage temperature range	T_j, T_{stg}	$-55 \sim 150$	$^\circ\text{C}$
Lead temperature for soldering purposes(1/8" from case for 10 s)	T_L	260	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_j = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Static characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20	-	-	V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$	-	-	1	μA
Gate-source leakage current	I_{GSS}	$V_{GS} = \pm 10V, V_{DS} = 0V$	-	-	± 20	μA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.35	-	1.1	V
Forward transconductance	$g_{fs}^{2)}$	$V_{DS} = 10V, I_D = 0.8A$	1	-	-	S
Drain-source on-state resistance	$R_{DS(on)}^{2)}$	$V_{GS} = 4.5V, I_D = 0.65A$	-	260	380	m Ω
		$V_{GS} = 2.5V, I_D = 0.55A$	-	320	450	
		$V_{GS} = 1.8V, I_D = 0.45A$		390	800	
Dynamic characteristics ³⁾						
Total gate charge	Q_g	$V_{DD} = 16V, V_{GS} = 4.5V, I_D = 0.65A$	-	1.3	-	nC
Gate-source charge	Q_{gs}		-	0.2	-	
Gate-drain charge	Q_{gd}		-	0.5	-	
Input capacitance	C_{iss}	$V_{DS} = 16V, V_{GS} = 0V, f = 1MHz$	-	-	120	pF
Output capacitance	C_{oss}		-	-	20	
Reverse transfer capacitance	C_{rss}		-	-	15	
Switching parameters ³⁾						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = 4.5V, R_{GEN} = 10\Omega, V_{DD} = 10V, I_D = 0.5A$	-	6.7	-	ns
Rise time	t_r		-	4.8	-	
Turn-off delay time	$t_{d(off)}$		-	17.3	-	
Fall time	t_f		-	7.4	-	
Diode characteristics						
Drain-source diode forward voltage	$V_{SD}^{2)}$	$I_S = 0.15A, V_{GS} = 0V$	-	-	1.2	V

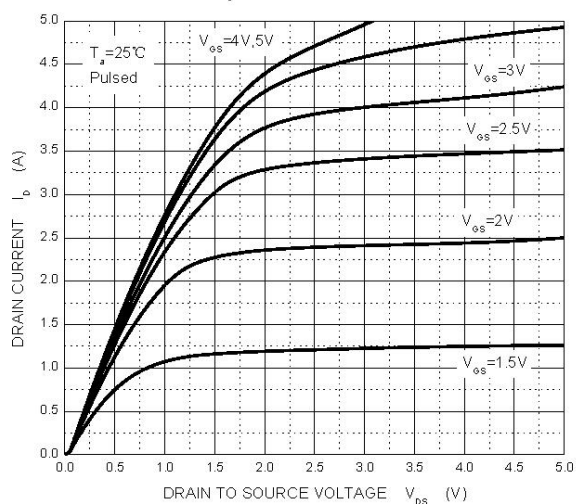
1) Repetitive rating: Pulse width limited by maximum junction temperature.

2) Pulse test: Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

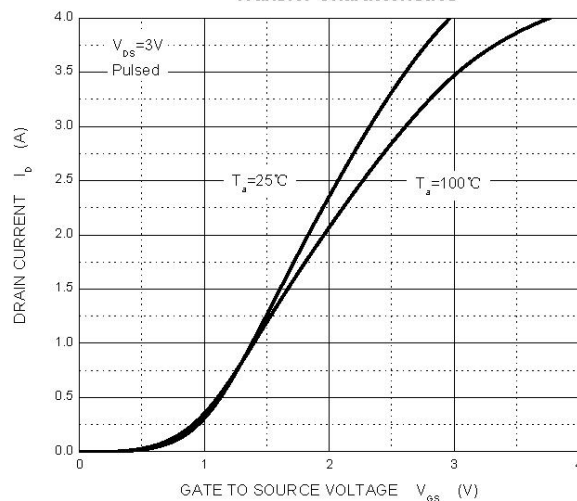
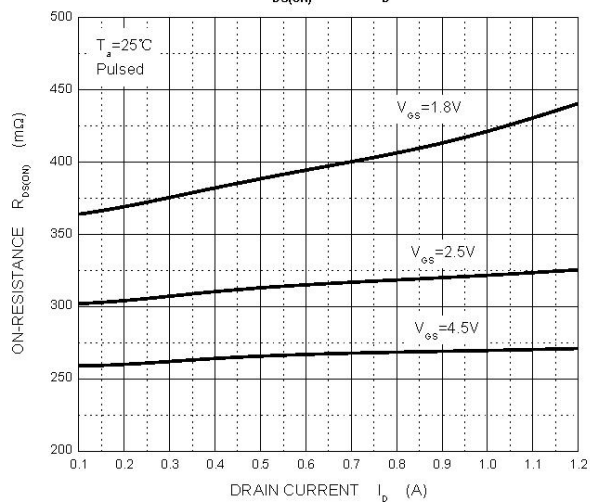
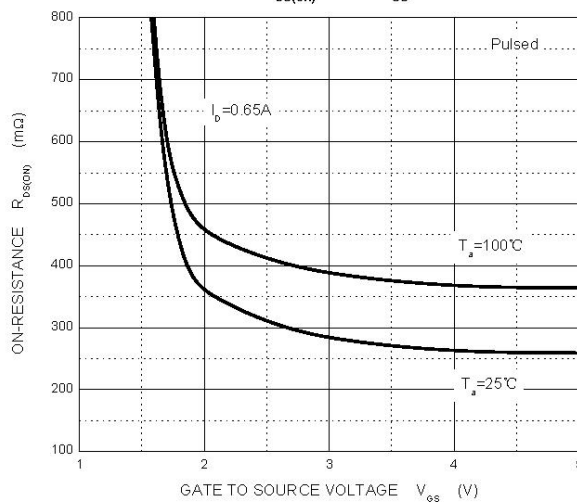
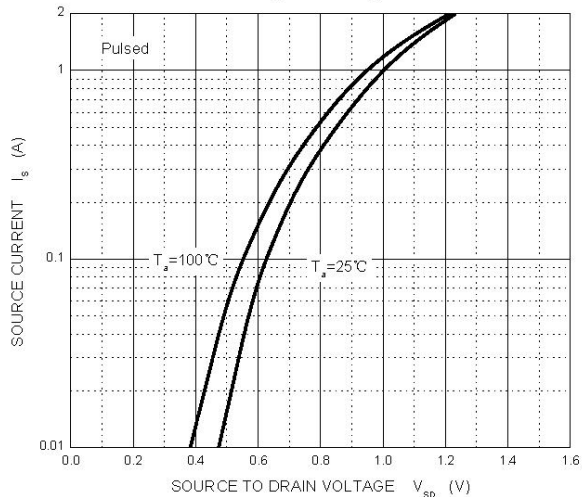
3) Guaranteed by design, not subject to production.

TYPICAL CHARACTERISTICS

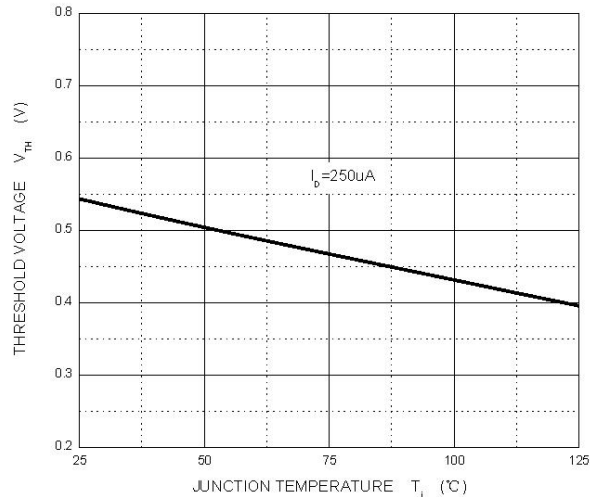
Output Characteristics



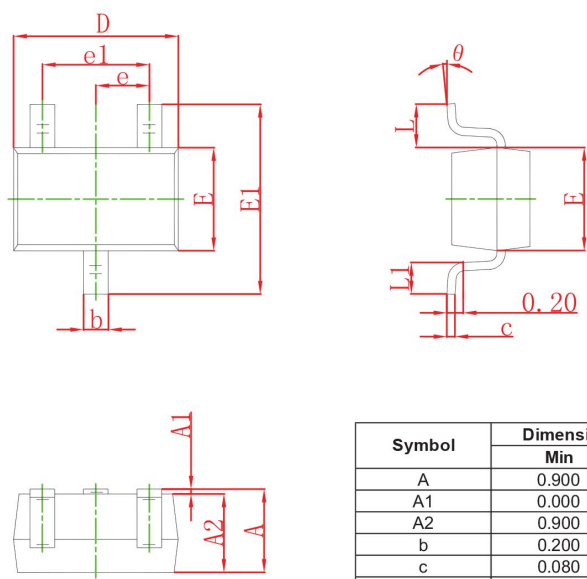
Transfer Characteristics

 $R_{DS(ON)}$ — I_D  $R_{DS(ON)}$ — V_{GS}  I_S — V_{SD} 

Threshold Voltage

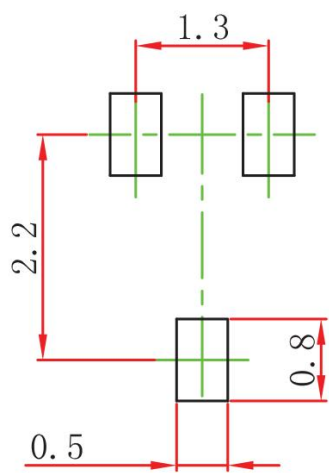


SOT-323 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

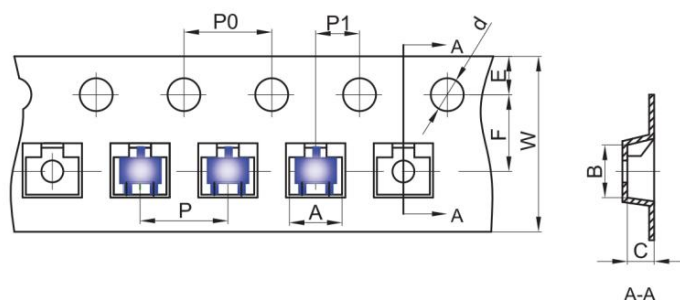
SOT-323 SUGGESTED PAD LAYOUT



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

SOT-323 TAPE AND REEL

SOT-323 Embossed Carrier Tape

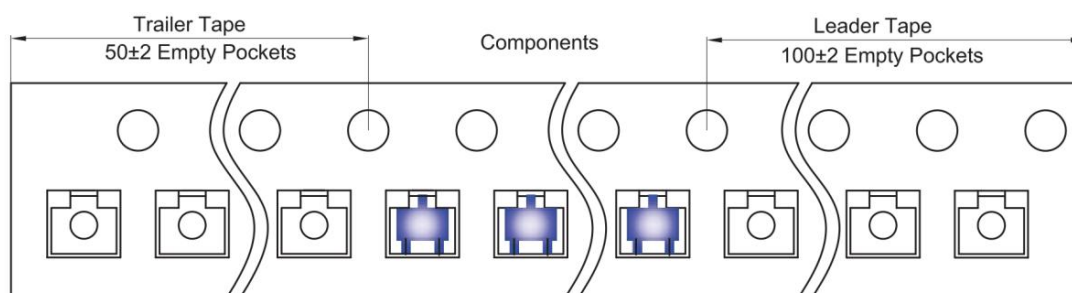


Packaging Description:

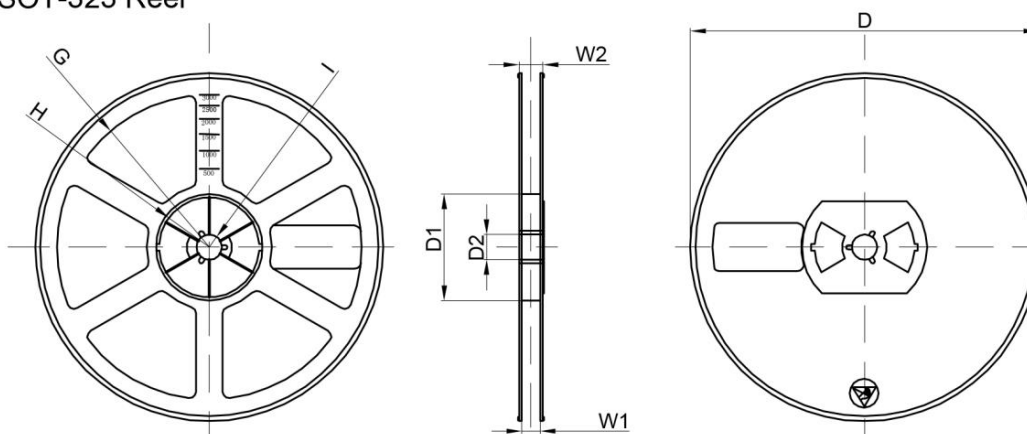
SOT-323 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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-323	2.25	2.55	1.19	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00

SOT-323 Tape Leader and Trailer



SOT-323 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	45,000 pcs	203×203×195	180,000 pcs	438×438×220	

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