HDK3401A

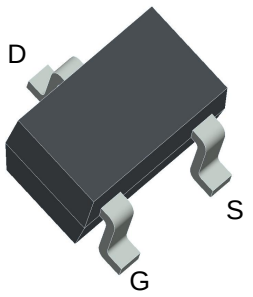
SOT-23-3L Plastic-Encapsulate MOSFET

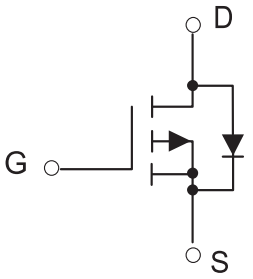
P -Channel MOSFET

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)}$MAX	I_D
-30V	60 mΩ@-10V	-4.2A
	70 mΩ@-4.5V	
	85 mΩ@-2.5V	

SOT- 23- 3L





Features

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

Applications

- Load/Power Switching
- Interfacing Switching

Marking:

- R1A

Limiting Values (Absolute Maximum Rating)

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
Power Dissipation	P_D	450	mW
Thermal Resistance from Junction to Ambient (t<5s)	$R_{\theta JA}$	313	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~+150	℃

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Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	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			60	mΩ
		V_{GS} =-4.5V, I_D =-4A			70	mΩ
		V_{GS} =-2.5V,I_D=-1A			85	mΩ
Forward tranconductance (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		1050		pF
Output capacitance	C_{oss}			127		pF
Reverse transfer capacitance	C_{rss}			85		pF
Switching characteristics (note 2)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=-10V,V_{DS}=-15V, R_L=3.6Ω,R_{GEN}=6Ω			6.5	ns
Turn-on rise time	t_r				3.5	ns
Turn-off delay time	$t_{d(off)}$				40	ns
Turn-off fall Time	t_f				13	ns
Drain-source diode characteristics and maximum ratings						
Diode forward voltage (note 1)	V_{SD}	I_S=-1A,V_{GS}=0V			-1	V

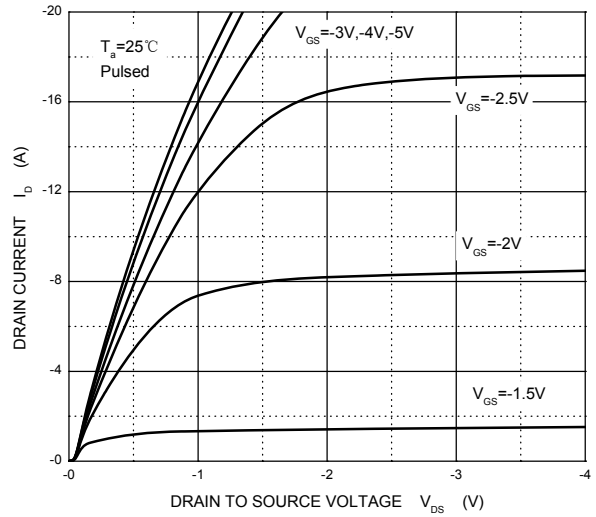
Note :

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

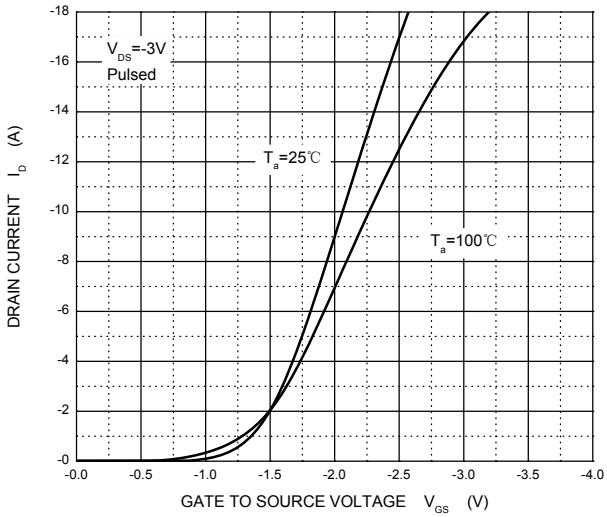
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Typical Characteristics

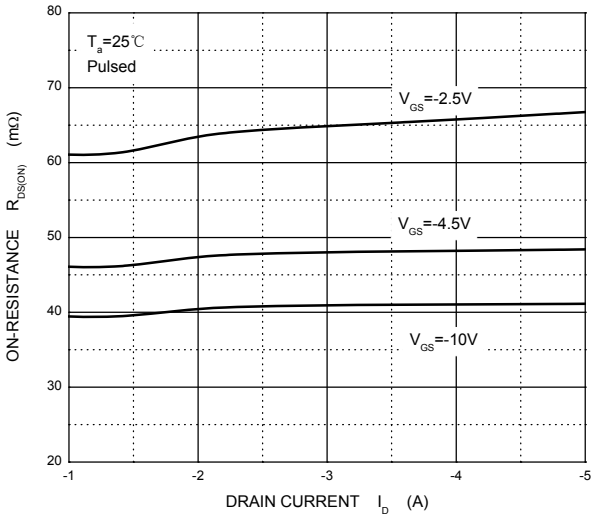
Output Characteristics



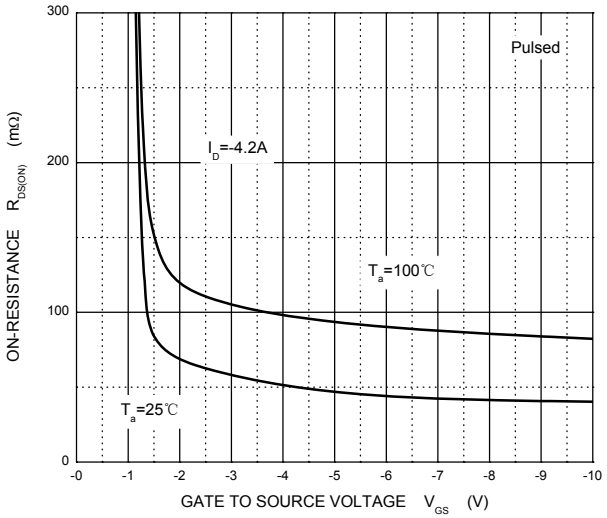
Transfer Characteristics



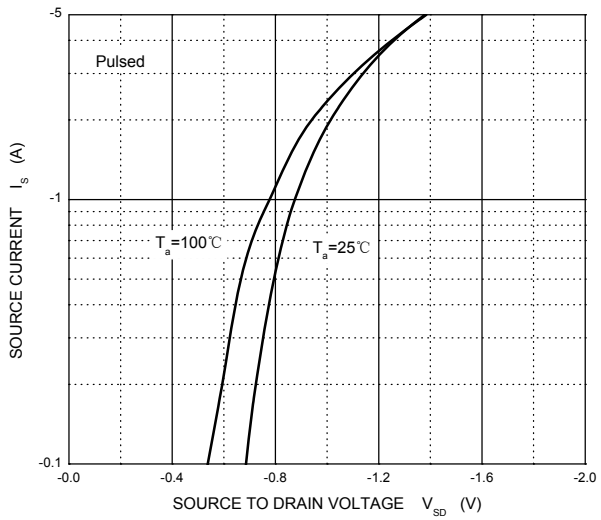
$R_{DS(ON)}$ —— I_D



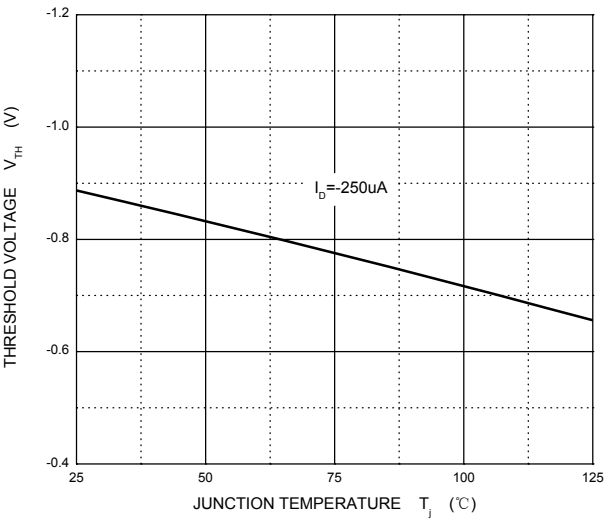
$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}

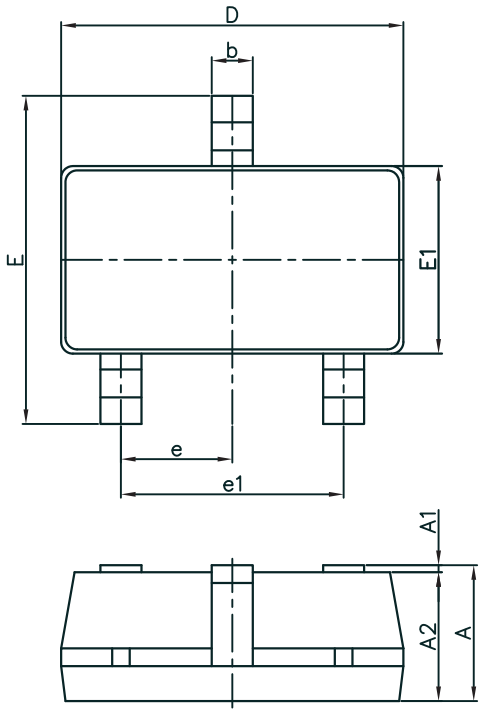


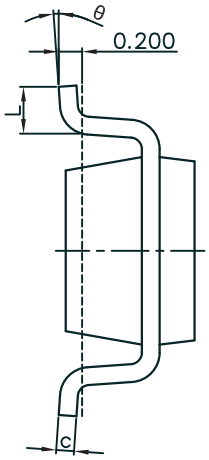
Threshold Voltage



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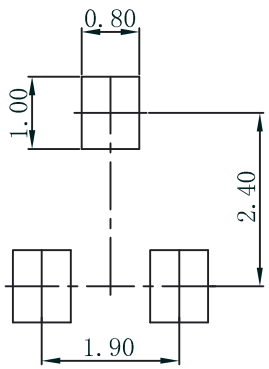
SOT-23-3L Package Outline Dimensions





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

SOT-23-3L Suggested Pad Layout



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

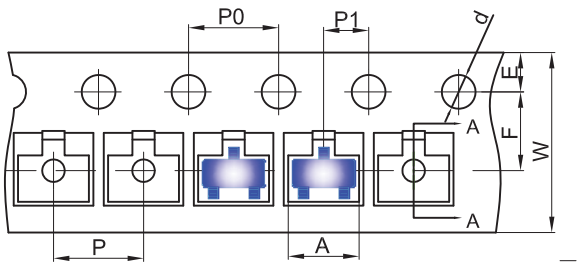
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Reel Taping Specifications For Surface Mount Devices-SOT-23-3L

SOT-23-3L Embossed Carrier Tape

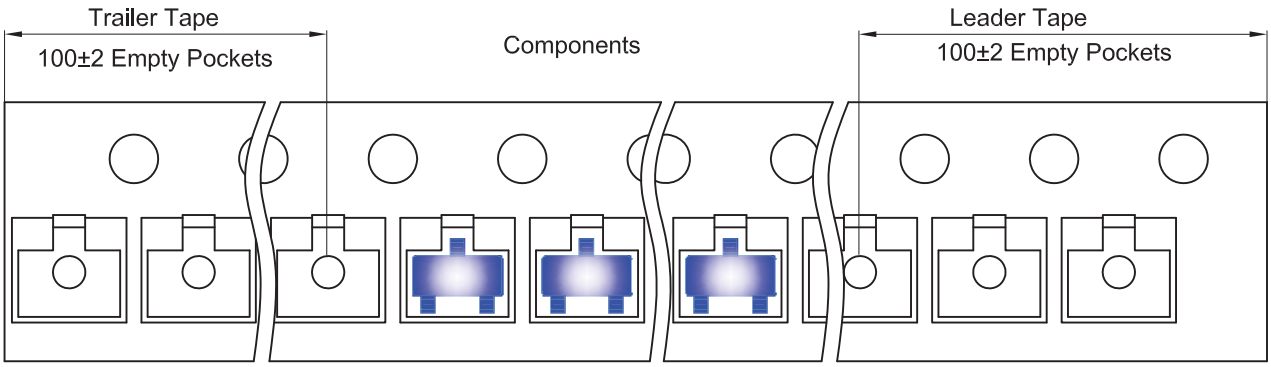


Packaging Description:

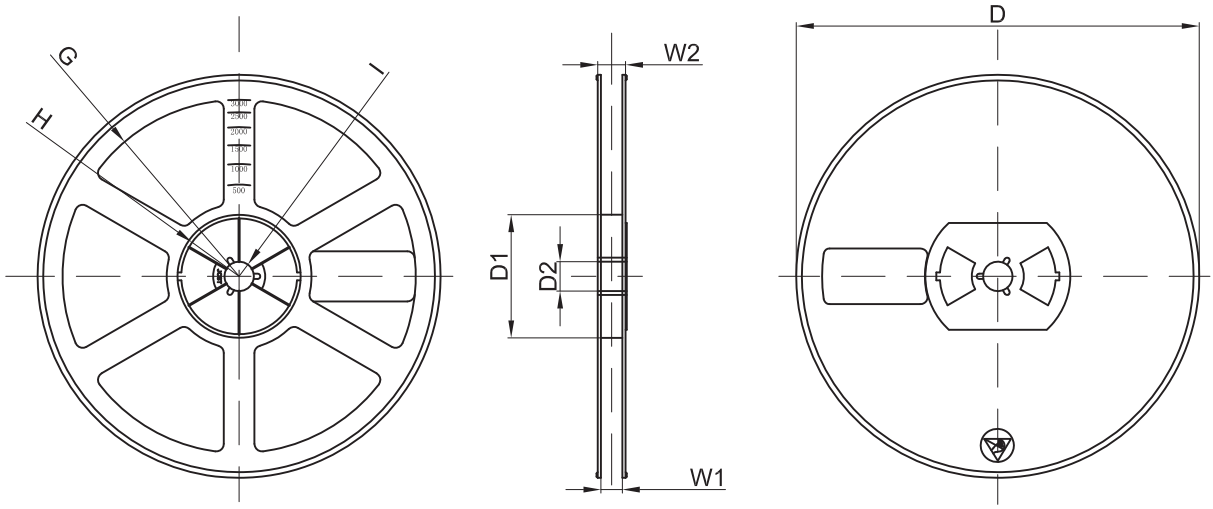
SOT-23-3L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 18.0cm 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-23-3L	3.18	3.28	1.32	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23-3L Tape Leader and Trailer



SOT-23-3L Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø180.00	60.00	13.00	R78.00	R25.60	R6.50	9.50	13.10

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	

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