

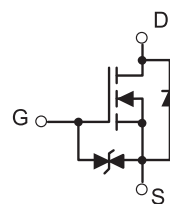
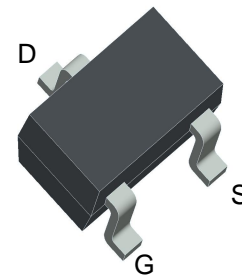
SOT-23 Plastic-Encapsulate MOSFET

N-Channel MOSFET

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
60V	5Ω@10V	340mA
	5.3Ω@4.5V	

SOT-23



Features

- High density cell design for Low $R_{DS(on)}$
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability
- ESD protected

Applications

- Load Switch for Portable Devices
- DC/DC Converter

Marking:

- 72K

Limiting Values (Absolute Maximum Rating)

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source voltage	60	V
V_{GS}	Gate-Source voltage	±20	V
I_D	Drain Current	340	mA
P_D	Power Dissipation	0.35	W
T_J	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55~+150	°C
$R_{θJA}$	Thermal Resistance from Junction to Ambient	357	°C /W

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

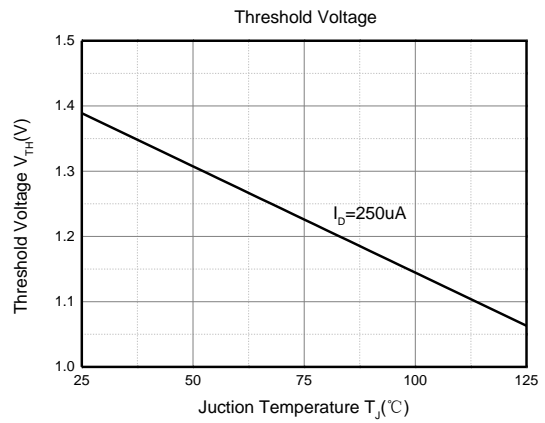
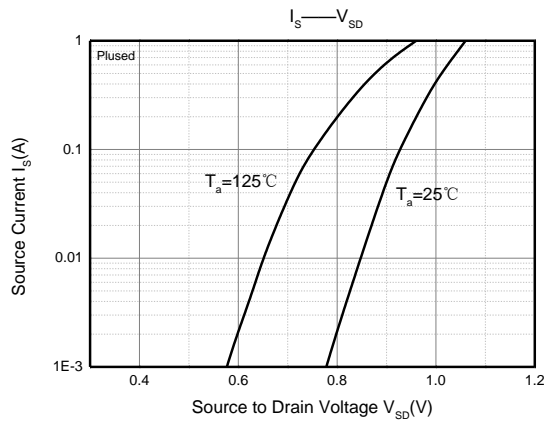
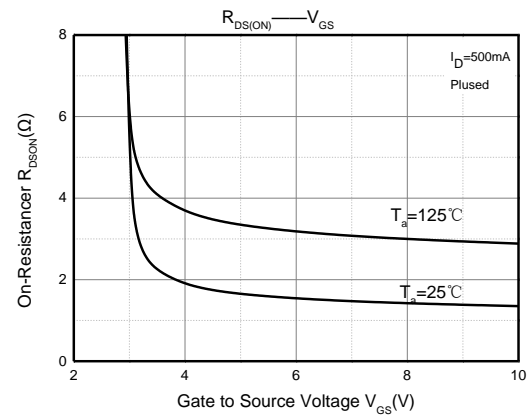
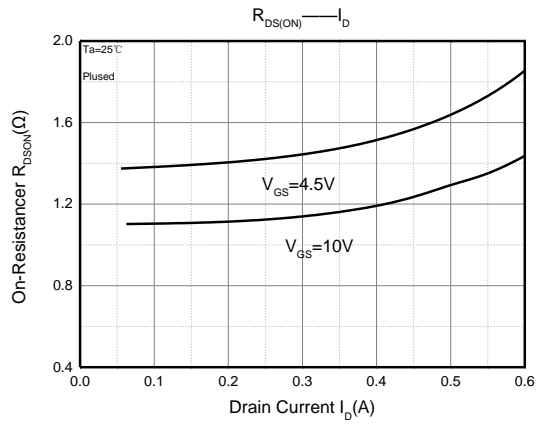
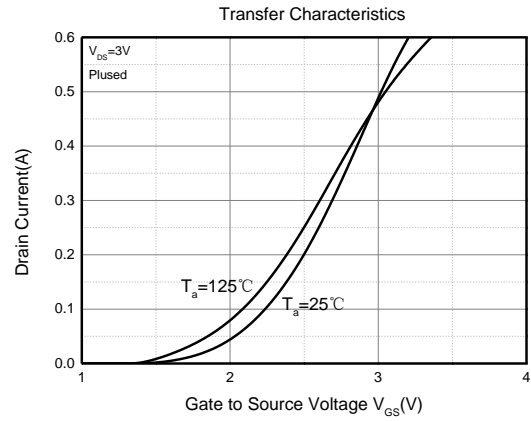
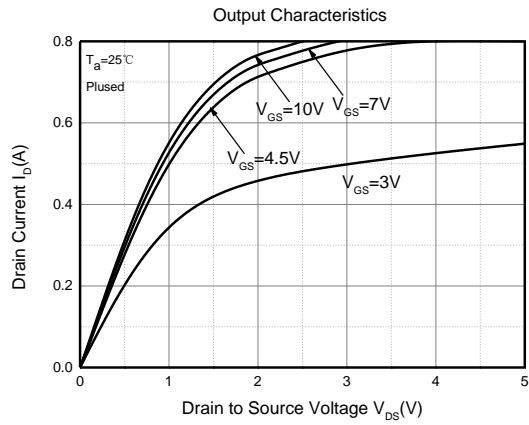
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	60			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 48V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS1}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 10	μA
	I_{GSS2}	$V_{GS} = \pm 10V, V_{DS} = 0V$			± 200	nA
	I_{GSS2}	$V_{GS} = \pm 5V, V_{DS} = 0V$			± 100	nA
Gate threshold voltage*	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	1.4	2.5	V
Drain-source on-resistance*	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 500mA$		1.3	5	Ω
		$V_{GS} = 4.5V, I_D = 200mA$		1.4	5.3	
Recovered charge	Q_r	$V_{GS}=0V, I_S=300mA, V_R=25V,$ $di_s/dt=-100A/\mu S$		30		nC
Dynamic characteristics**						
Input Capacitance	C_{iss}	$V_{DS}=10V, V_{GS}=0V, f=1MHz$			40	pF
Output Capacitance	C_{oss}				30	
Reverse Transfer Capacitance	C_{rss}				10	
Switching Characteristics**						
Turn-on delay time	$t_{d(on)}$	$V_{GS}=10V, V_{DD}=50V, R_G=50\Omega$			10	ns
Turn-off delay time	$t_{d(off)}$	$R_{GS}=50\Omega, R_L=250\Omega$			15	
Reverse recovery Time	t_{rr}	$V_{GS}=0V, I_S=300mA, V_R=25V,$ $di_s/dt=-100A/\mu S$		30		
Source-Drain Diode characteristics						
Diode Forward voltage	V_{SD}	$V_{GS} = 0V, I_S = 300mA$		0.97	1.5	V
GATE-SOURCE ZENER DIODE						
Gate-Source Breakdown Voltage	BV_{GSO}	$I_{GS} = \pm 1mA$ (Open Drain)	± 21.5		± 30	V

Notes:

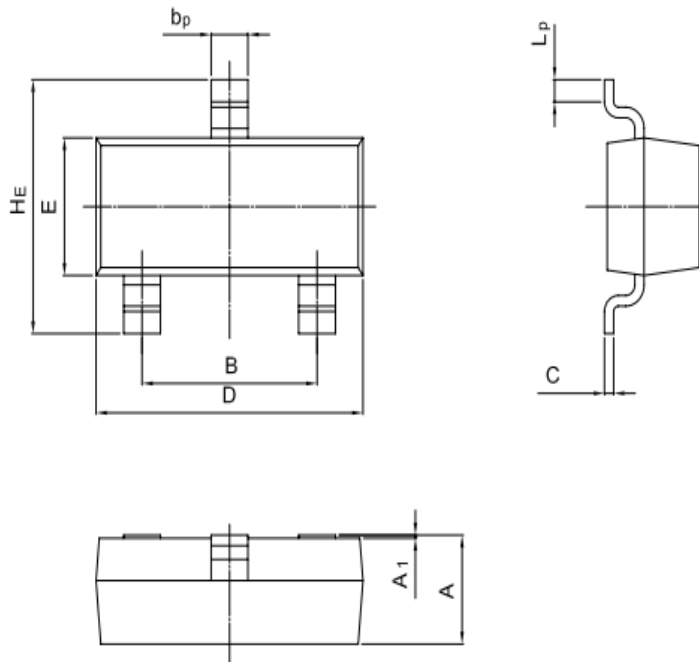
*Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

**These parameters have no way to verify.

Typical Characteristics

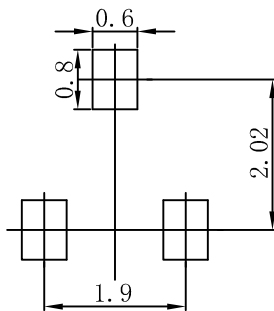


SOT-23 Package Outline Dimensions



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20

SOT-23 Suggested Pad Layout



Note:

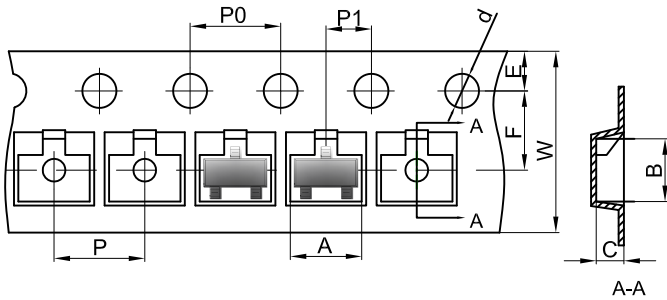
1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

NOTICE

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Reel Taping Specifications For Surface Mount Devices-SOT-23

SOT-23 Embossed Carrier Tape



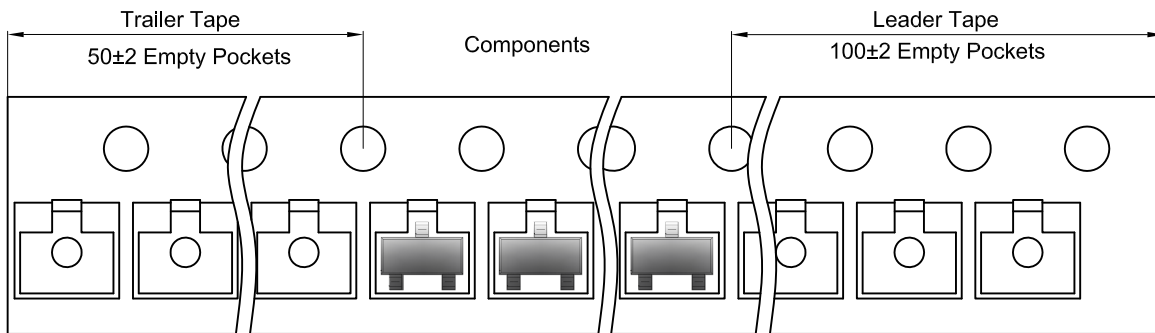
Packaging Description:

SOT-23 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).

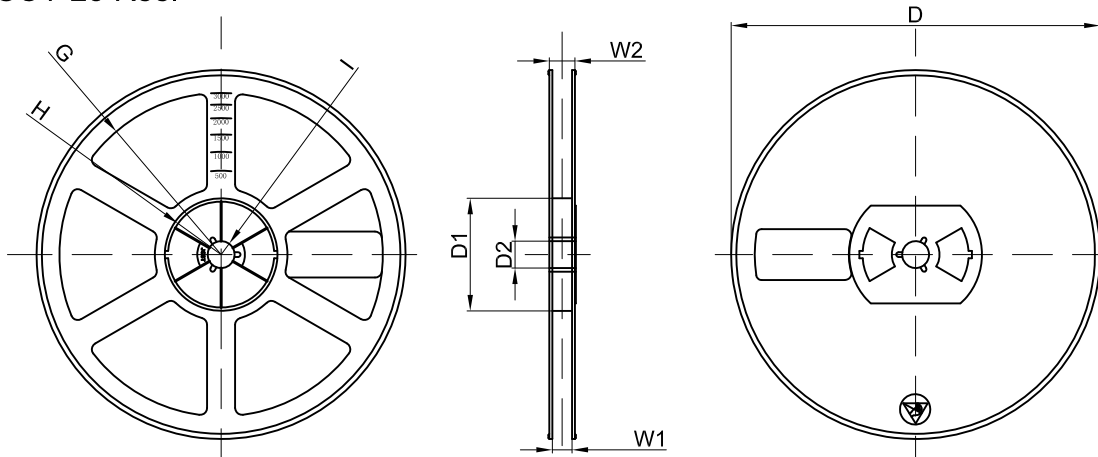
Dimensions are in millimeter

Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-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	45,000 pcs	203×203×195	180,000 pcs	438×438×230	

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