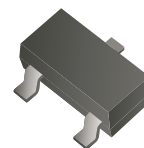


## ABSS84-HF

**P-Channel**  
**RoHS Device**  
**Halogen Free**



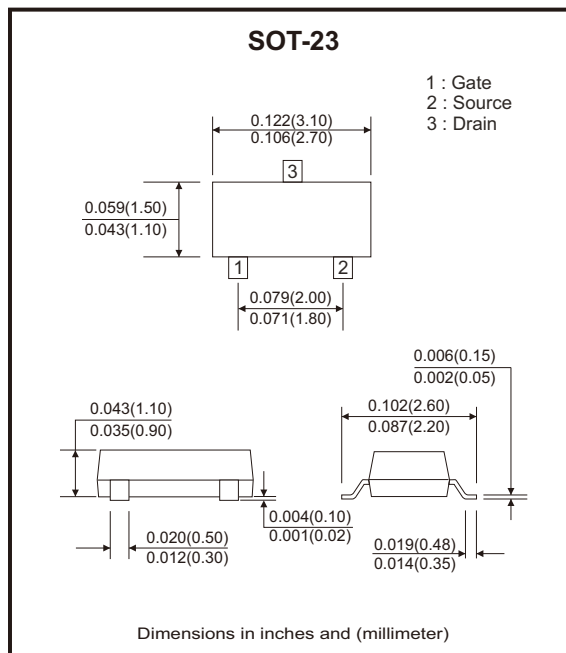
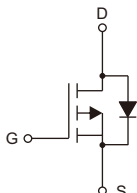
### Features

- Low on-resistance.
- High-speed switching.
- Drive circuits can be simple.
- Parallel use is easy.
- AEC-Q101 Qualified.

### Mechanical data

- Case: SOT-23, molded plastic.
- Molding compound: UL flammability classification rating 94V-0.
- Terminals: Matte tin plated leads, solderable per MIL-STD-202, method 208.

### Circuit Diagram



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

Parameter	Symbol	Value	Unit
Drain-source voltage	V <sub>DSS</sub>	-50	V
Gate-source voltage	V <sub>GSS</sub>	±12	V
Continuous drain current (Note 1)	I <sub>D</sub>	-130	mA
Pulsed drain current (Note 4)	I <sub>DM</sub>	-520	mA
Power dissipation (Note 1)	P <sub>D</sub>	0.36	W
Thermal resistance junction to air (Note 1)	R <sub>θJA</sub>	347	°C/W
Operating junction temperature range	T <sub>J</sub>	-55 to +150	°C
Storage temperature range	T <sub>STG</sub>	-55 to +150	°C

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	$V_{DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-50			V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = -50V, V_{GS} = 0V$			-1	$\mu A$
Gate-body leakage current	$I_{GSS}$	$V_{GS} = \pm 20V, V_{DS} = 0V$			$\pm 10$	$\mu A$
<b>On Characteristics (Note 2)</b>						
Static drain-source on resistance	$R_{DS(ON)}$	$V_{GS} = -5V, I_D = -0.1A$		2.1	10	$\Omega$
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -1mA$	-0.8		-2	V
<b>Dynamic Characteristics (Note 3)</b>						
Input capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = -20V, f = 1MHz$		56		pF
Output capacitance	$C_{oss}$			17		
Reverse transfer capacitance	$C_{rss}$			5		
Gate resistance	$R_G$	$V_{GS} = 0V, V_{DS} = -20V, f = 1MHz$		324		$\Omega$
<b>Switching Characteristics (Note 3)</b>						
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 30V, I_D = 0.2A, V_{GS} = 10V, R_G = 25\Omega, R_L = 150\Omega$		6		nS
Turn-on rise time	$t_r$			5		
Turn-off delay time	$t_{d(off)}$			25		
Turn-off fall time	$t_f$			15		
<b>Source-Drain Diode Characteristics</b>						
Diode forward voltage (Note 2)	$V_{SD}$	$I_S = -0.26A, V_{GS} = 0V$		-1.15	-1.4	V
Maximum body-diode continuous current	$I_S$	$T_C = 25^\circ C$			-0.3	A

Notes: 1. Surface mounted on FR4 board, and standard footprint,  $t \leq 10$  sec.

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

3. Guaranteed by design, not subject to production.

4. Pulse width limited by maximum junction temperature.

## Rating and Characteristic Curves (ABSS84-HF)

Fig.1 - Output Characteristics

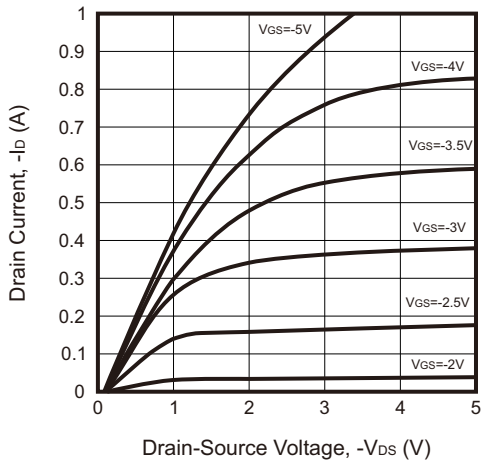


Fig.2 - Drain-Source On-Resistance

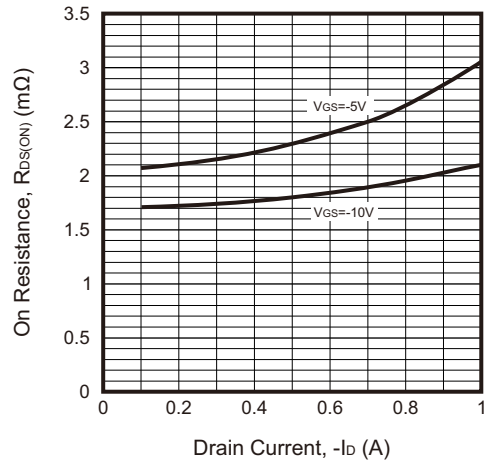


Fig.3 - Drain-Source On-Resistance

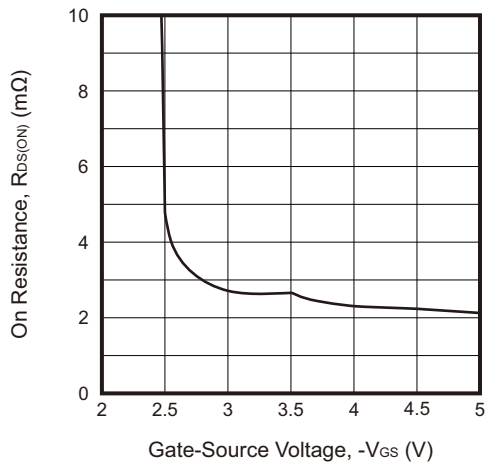


Fig.4 - Gate Threshold Voltage

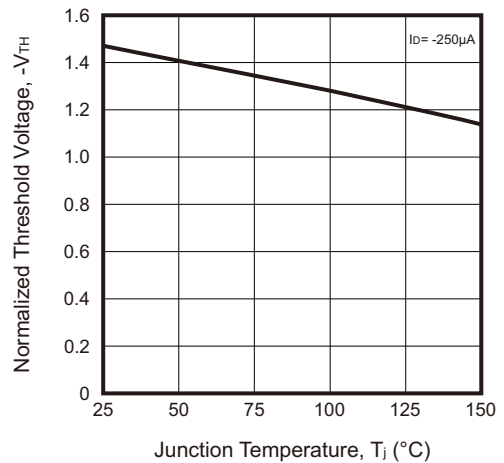


Fig.5 - Drain-Source On-Resistance

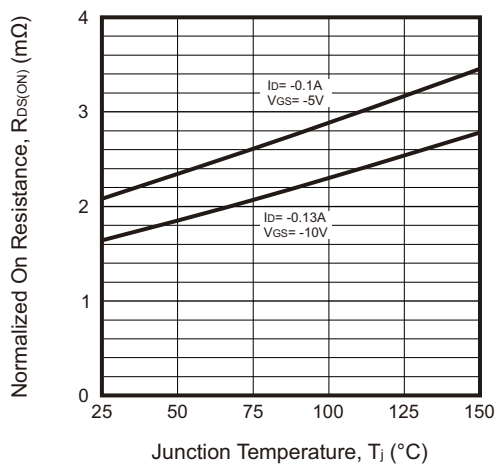
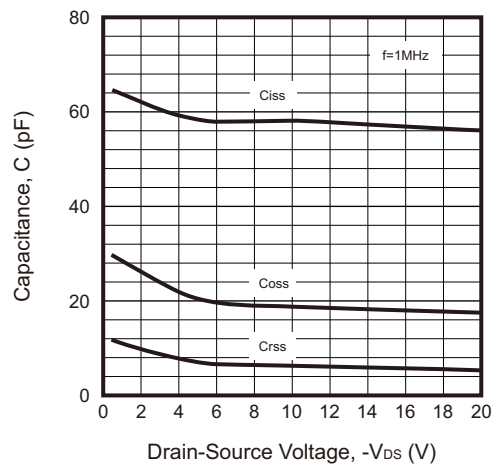
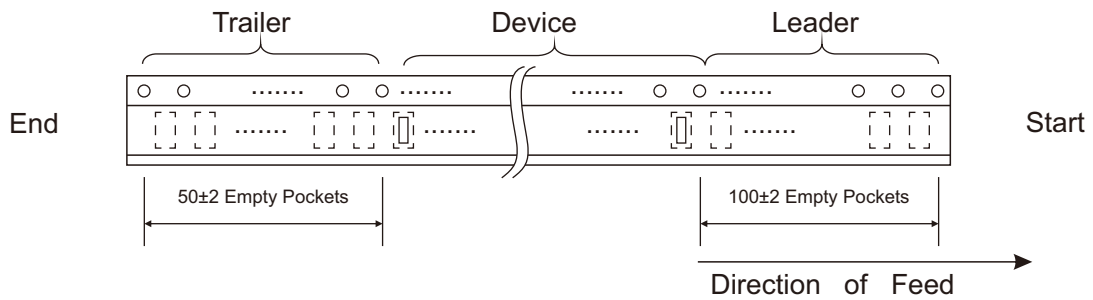
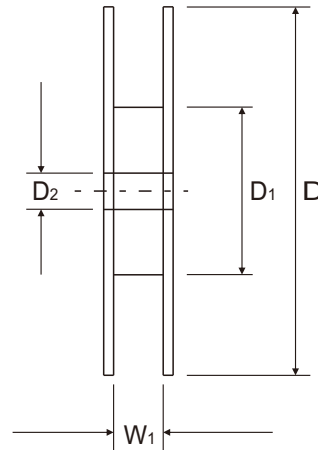
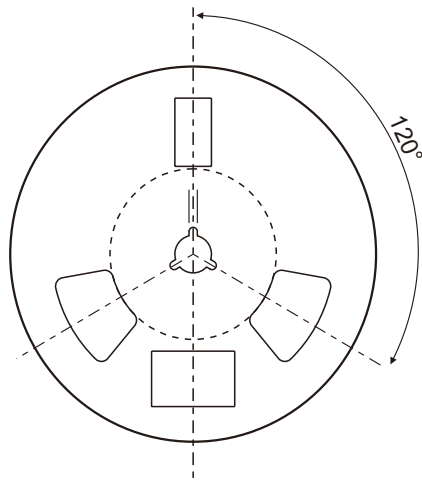
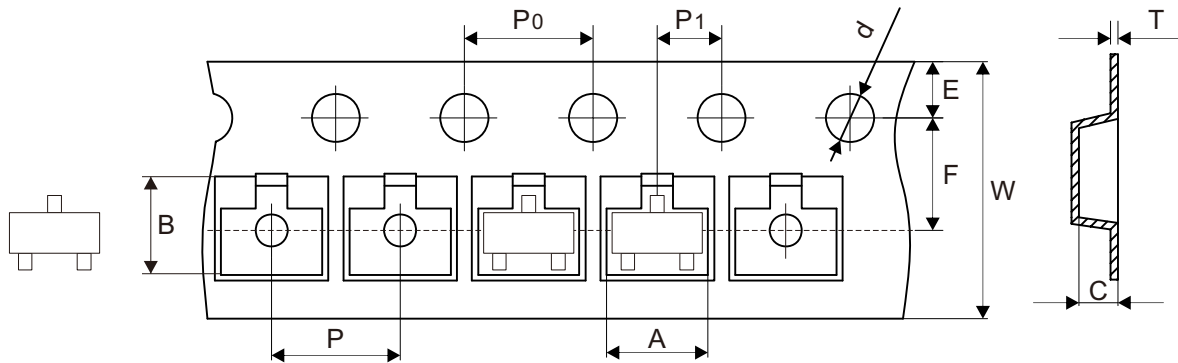


Fig.6 - Capacitance



Reel Taping Specification

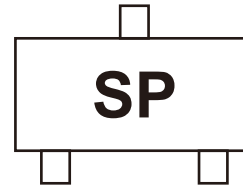


SOT-23	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 ± 0.10	178.00 ± 1.00	54.00 ± 0.50	13.00 ± 0.50
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 ± 0.004	7.008 ± 0.039	2.126 ± 0.020	0.512 ± 0.020

SOT-23	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.20 ± 0.02	8.00 ± 0.30	9.50 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.001	0.315 ± 0.012	0.374 ± 0.039

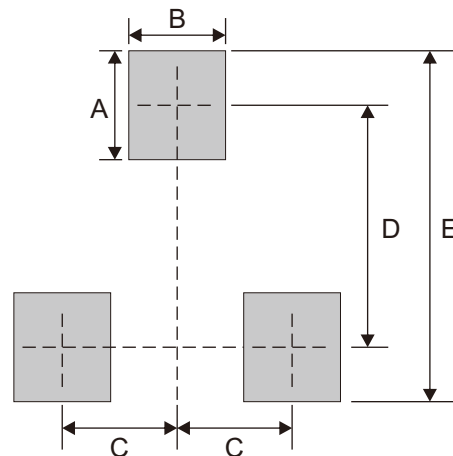
## Marking Code

Part Number	Marking Code
ABSS84-HF	SP



## Suggested P.C.B. PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.90	0.035
B	0.80	0.031
C	0.95	0.037
D	2.00	0.079
E	2.90	0.114



## Standard Packaging

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