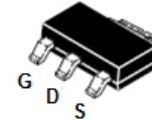


ACMS01P06Y-HF

P-Channel
RoHS Device
Halogen Free



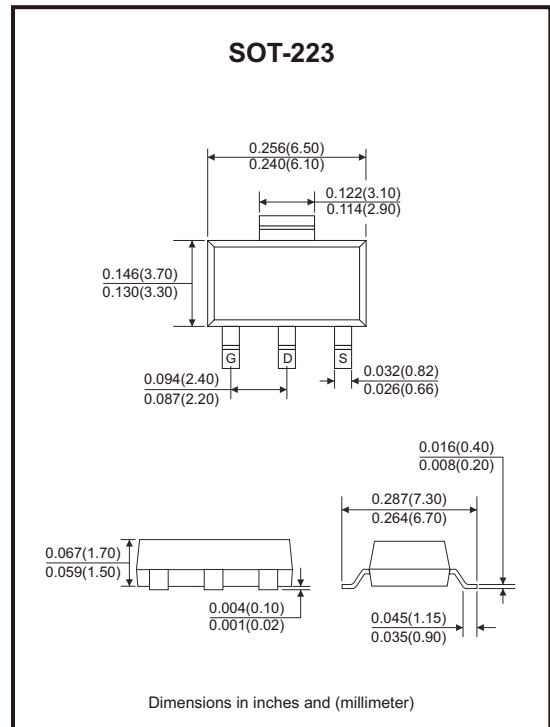
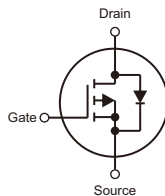
Features

- $R_{DS(ON)}=150m\Omega(MAX)$ @ $V_{GS}=-10V$
- $R_{DS(ON)}=200m\Omega(MAX)$ @ $V_{GS}=-4.5V$
- AEC-Q101 Qualified.

Mechanical data

- Case: SOT-223, 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 $T_A=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DSS}	-60	V
Gate-source voltage	V_{GSS}	± 20	V
Continuous drain current	I_D	-1.9	A
Pulsed drain current, $PW \leq 300\mu s$, duty cycle $\leq 2\%$	I_{DM}	-7.6	A
Power dissipation @ $T_A=25^{\circ}C$	P_D	1.8	W
Operating junction temperature range	T_J	-55 to +150	$^{\circ}C$
Storage temperature range	T_{STG}	-55 to +150	$^{\circ}C$

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V_{DS}	$V_{GS} = 0V, I_D = -250\mu A$	-60			V
Drain-source leakage current	I_{DSS}	$V_{DS} = -48V, V_{GS} = 0V$			-1	μA
Gate-body leakage	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
On Characteristics (Note 2)						
Static drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -1.5A$		131	150	m Ω
		$V_{GS} = -4.5V, I_D = -1A$		165	200	
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-1.9	-3	V
Dynamic Characteristics (Note 3)						
Input capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = -15V, f = 1MHz$		619		pF
Output capacitance	C_{oss}			57		
Reverse transfer capacitance	C_{rss}			40		
Total gate charge	Q_g	$V_{GS} = -10V, V_{DS} = -20V, I_D = -1.5A$		12		nC
Gate to source charge	Q_{gs}			4.6		
Gate to drain charge	Q_{gd}			1.2		
Turn-on delay time	$t_{d(on)}$	$V_{GS} = -10V, V_{DD} = -15V, I_D = -1A$ $R_G = 3.3\Omega$		17.4		ns
Rise time	t_r			5.4		
Turn-off delay time	$t_{d(off)}$			37.2		
Fall time	t_f			2.4		
Source-Drain Diode Characteristics						
Diode forward voltage (Note 1)	V_{SD}	$I_S = -1A, V_{GS} = 0V$		-0.8	-1.4	V

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

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

3. Guaranteed by design, not subject to production.

Rating and Characteristic Curves (ACMS01P06Y-HF)

Fig.1 - On-Region Characteristics

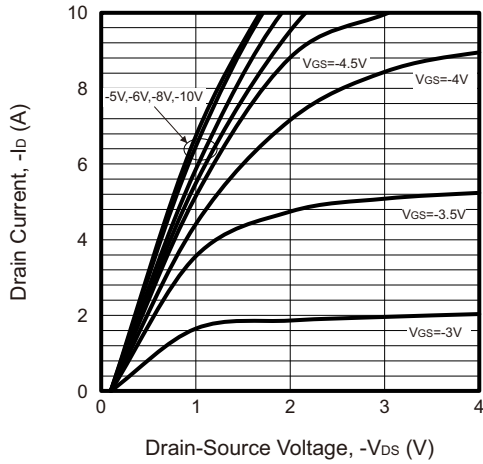


Fig.2 - On-Resistance vs. Drain Current and Gate Voltage

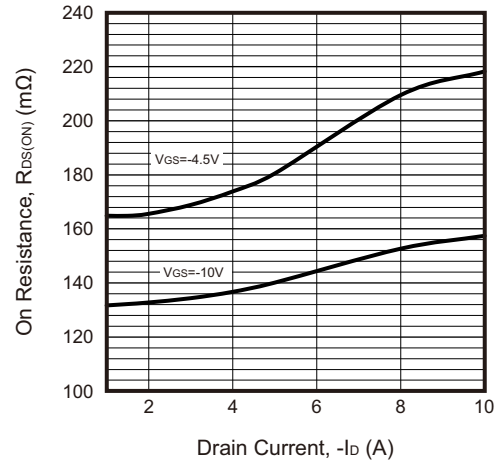


Fig.3 - On-Resistance vs. Gate-Source Voltage

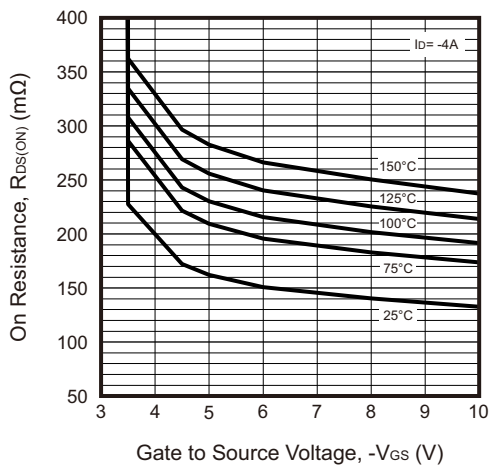


Fig.4 - Body-Diode Characteristics

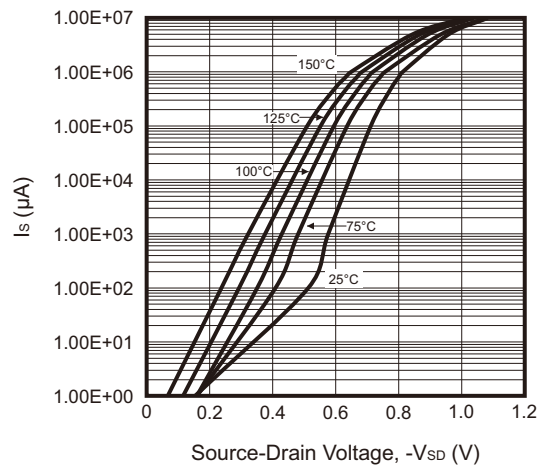


Fig.5 - On-Resistance vs. Junction Temperature

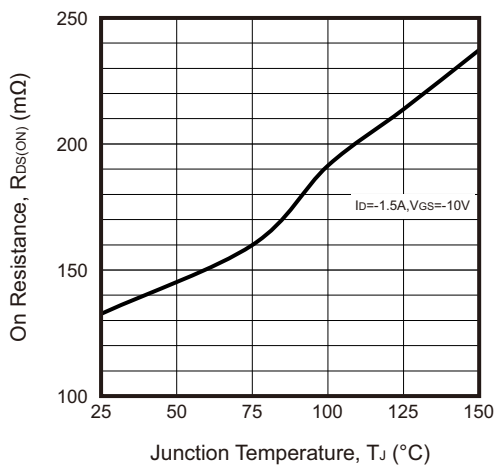
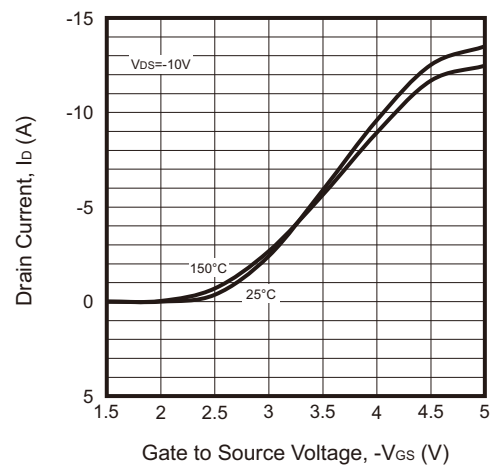


Fig.6 - Transfer Characteristics



Rating and Characteristic Curves (ACMS01P06Y-HF)

Fig.7 - Capacitance Characteristics

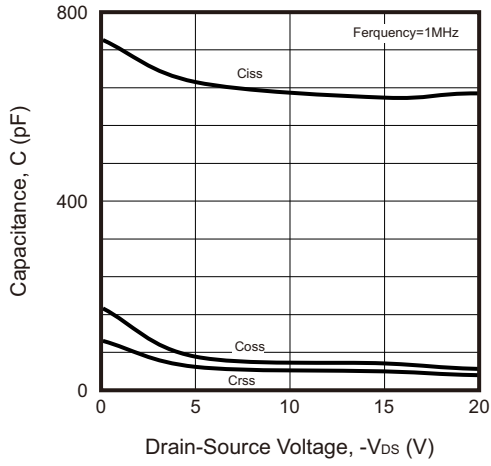


Fig.8 - Drain-Source vs. Junction Temperature

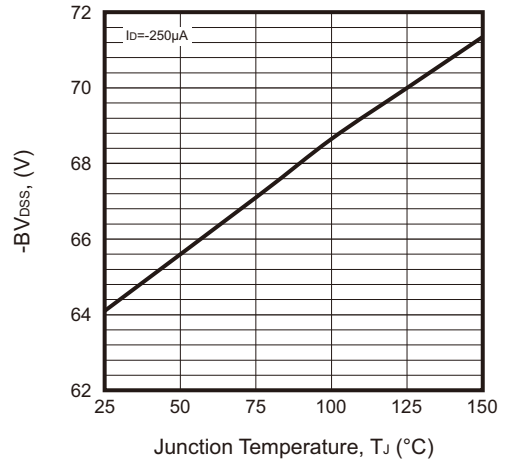
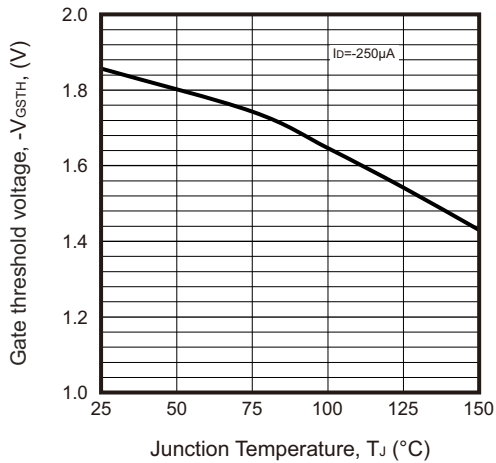
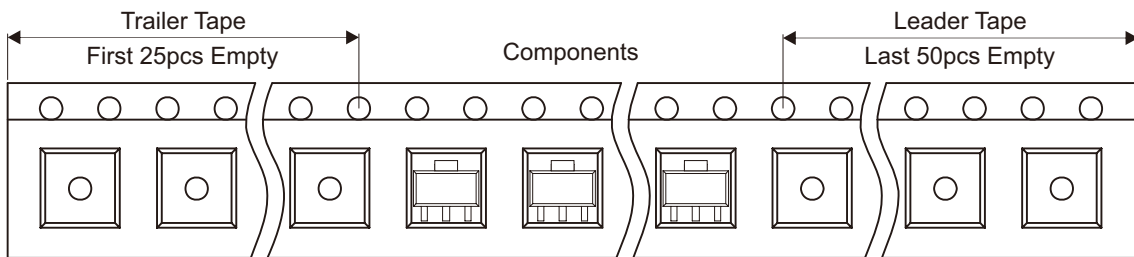
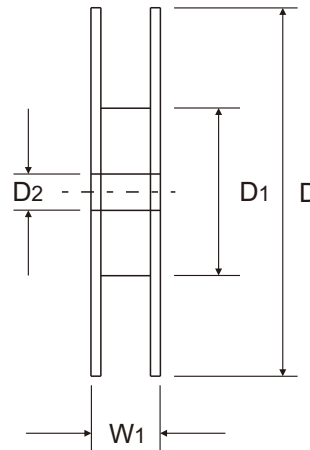
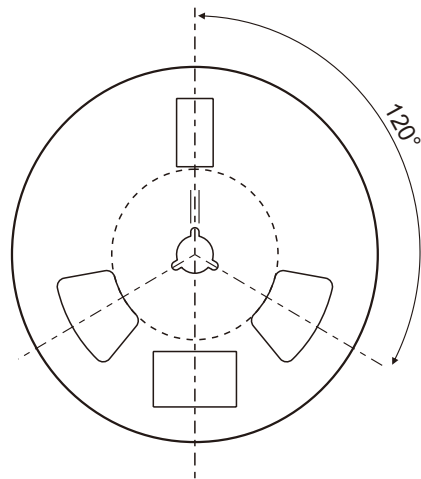
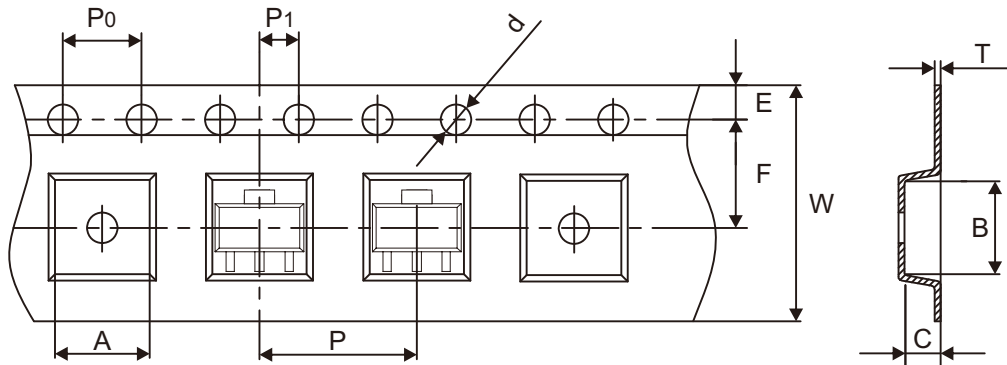


Fig.9 - Gate-Voltage vs. Junction Temperature



Reel Taping Specification

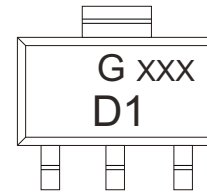


SOT-223	SYMBOL	A	B	C	d	D	D ₁	D ₂
	(mm)	7.05 ± 0.10	7.40 ± 0.10	1.90 ± 0.10	1.55 ± 0.05	330.00 ± 2.00	100.00 ± 2.00	13.00 ± 0.20
	(inch)	0.278 ± 0.004	0.291 ± 0.004	0.075 ± 0.004	0.061 ± 0.002	12.992 ± 0.079	3.937 ± 0.079	0.512 ± 0.008

SOT-223	SYMBOL	E	F	P	P ₀	P ₁	T	W	W ₁
	(mm)	1.75 ± 0.10	5.50 ± 0.10	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.25 ± 0.05	12.00 + 0.30 - 0.10	18.50 ± 2.00
	(inch)	0.069 ± 0.004	0.217 ± 0.004	0.315 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.010 ± 0.002	0.472 + 0.012 - 0.004	0.728 ± 0.079

Marking Code

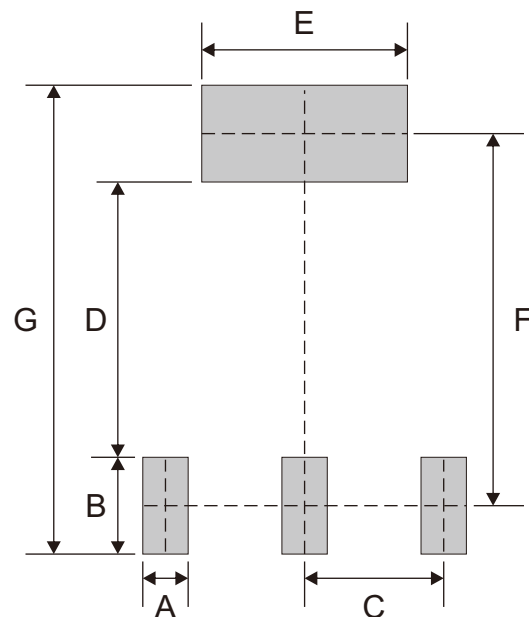
Part Number	Marking Code
ACMS01P06Y-HF	D1



XXX = Control code

Suggested P.C.B. PAD Layout

SIZE	SOT-223	
	(mm)	(inch)
A	0.75	0.030
B	1.60	0.063
C	2.30	0.091
D	4.55	0.179
E	3.40	0.134
F	6.15	0.242
G	7.75	0.305



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-223	4,000	13