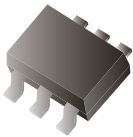


AUMD9N-HF (NPN+PNP)

RoHS Device
Halogen Free

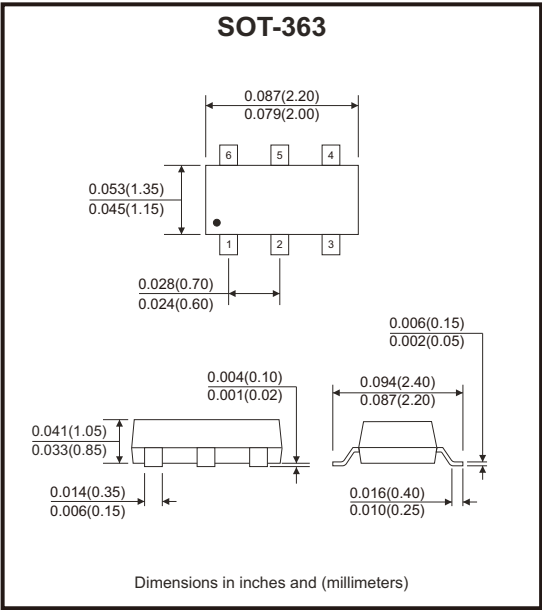


Features

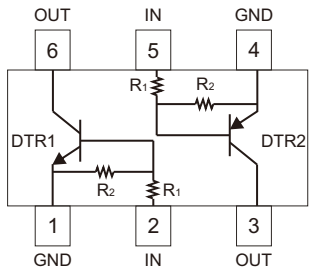
- Reduces board space.
- Reduces component count.
- Surface mount package suited for automated assembly.
- AEC-Q101 Qualified.

Mechanical data

- Case: SOT-363, molded plastic.
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, method 208.
- Mounting position: Any.



Circuit Diagram



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

Parameter	Symbol	DTR1	DTR2	Units
Supply voltage	V _{CC}	50	-50	V
Input voltage	V _{IN}	-6 to +40	-40 to +6	V
Output current	I _O	70	-70	mA
Max. collector current	I _C	100	-100	mA
Power dissipation	P _D	150		mW
Operating junction temperature range	T _J	-55 to +150		°C
Storage temperature range	T _{STG}	-55 to +150		°C

Electrical Characteristics- DTR1 (at Ta=25°C unless otherwise noted)

Parameter	Symbol	Test conditions	Min	Typ	Max	Units
Input voltage	$V_{I(off)}$	$V_{CC} = 5V, I_o = 100\mu A$	0.3			V
Input voltage	$V_{I(on)}$	$V_o = 0.3V, I_o = 1mA$			1.4	V
Output voltage	$V_{O(on)}$	$I_o = 5mA, I_i = 0.25mA$			0.3	V
Input current	I_i	$V_i = 5V$			0.88	mA
Output current	$I_{O(off)}$	$V_{CC} = 50V, V_i = 0V$			0.5	μA
DC current gain	G_i	$V_o = 5V, I_o = 5mA$	68			
Input resistor	R_i		7	10	13	k Ω
Resistance ratio	R_2/R_1		3.7	4.7	5.7	
Gain-bandwidth product	f_r	$V_{CE} = 10V, I_E = 5mA, f = 100MHz$		250		MHz

Electrical Characteristics- DTR2 (at Ta=25°C unless otherwise noted)

Parameter	Symbol	Test conditions	Min	Typ	Max	Units
Input voltage	$V_{I(off)}$	$V_{CC} = -5V, I_o = -100\mu A$	-0.3			V
Input voltage	$V_{I(on)}$	$V_o = -0.3V, I_o = -1mA$			-1.4	V
Output voltage	$V_{O(on)}$	$I_o = -5mA, I_i = -0.25mA$			-0.3	V
Input current	I_i	$V_i = -5V$			-0.88	mA
Output current	$I_{O(off)}$	$V_{CC} = -50V, V_i = 0V$			-0.5	μA
DC current gain	G_i	$V_o = -5V, I_o = -5mA$	68			
Input resistor	R_i		7	10	13	k Ω
Resistance ratio	R_2/R_1		3.7	4.7	5.7	
Gain-bandwidth product	f_r	$V_{CE} = -10V, I_E = -5mA, f = 100MHz$		250		MHz

Typical Rating and Characteristic Curves - DTR1 (AUMD9N-HF)

Fig.1 - Input Voltage vs Output Current

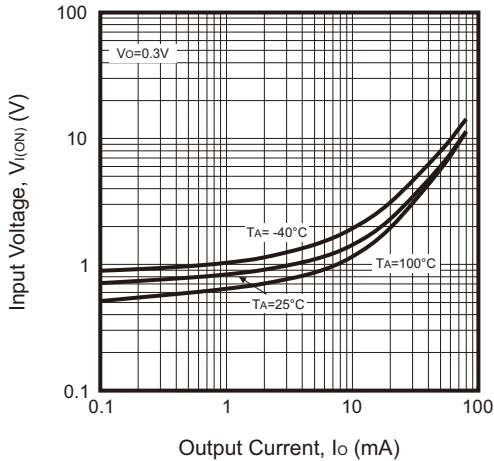


Fig.2 - Output Current vs Input Voltage

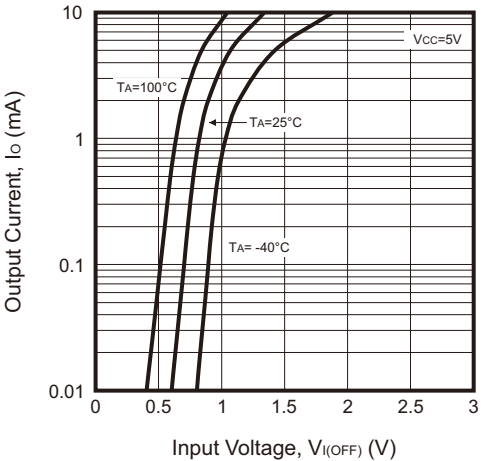


Fig.3 - DC Current Gain vs Output Current

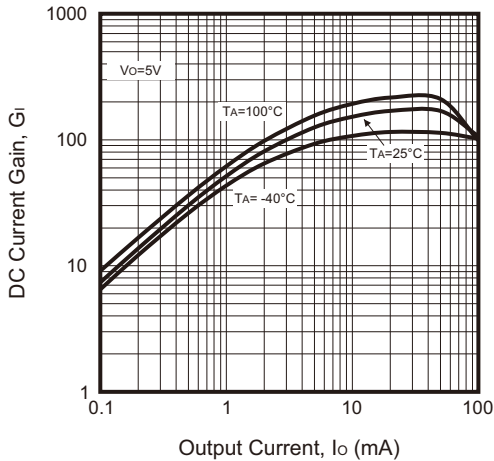
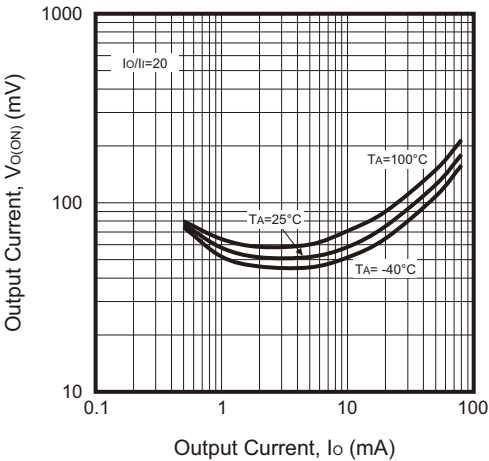


Fig.4 - Output Voltage vs Output Current



Typical Rating and Characteristic Curves - DTR2 (AUMD9N-HF)

Fig.5 - Input Voltage vs Output Current

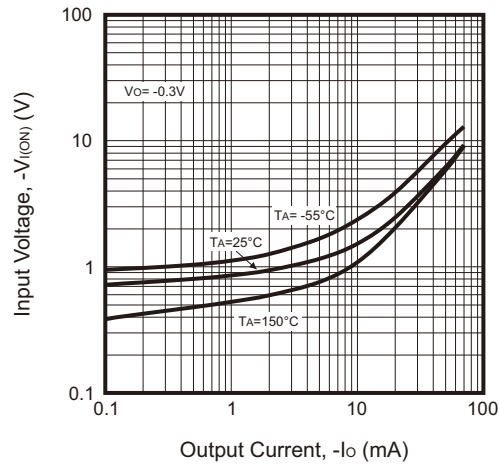


Fig.6 - Output Current vs Input Voltage

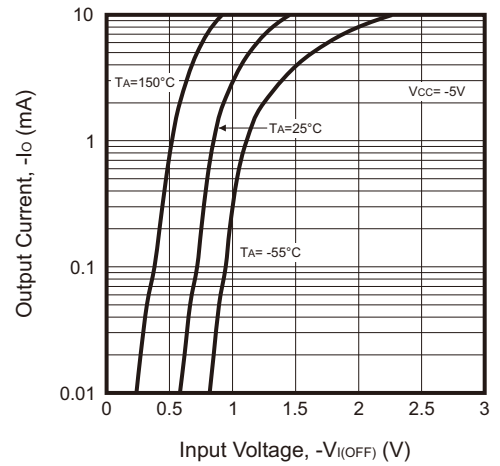


Fig.7 - DC Current Gain vs Output Current

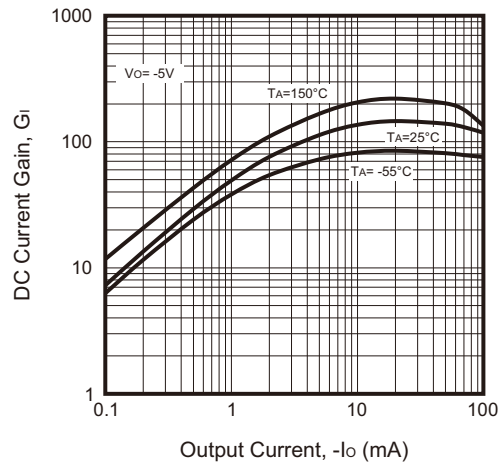
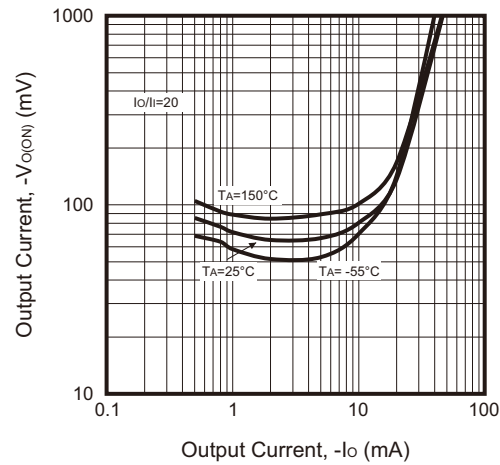
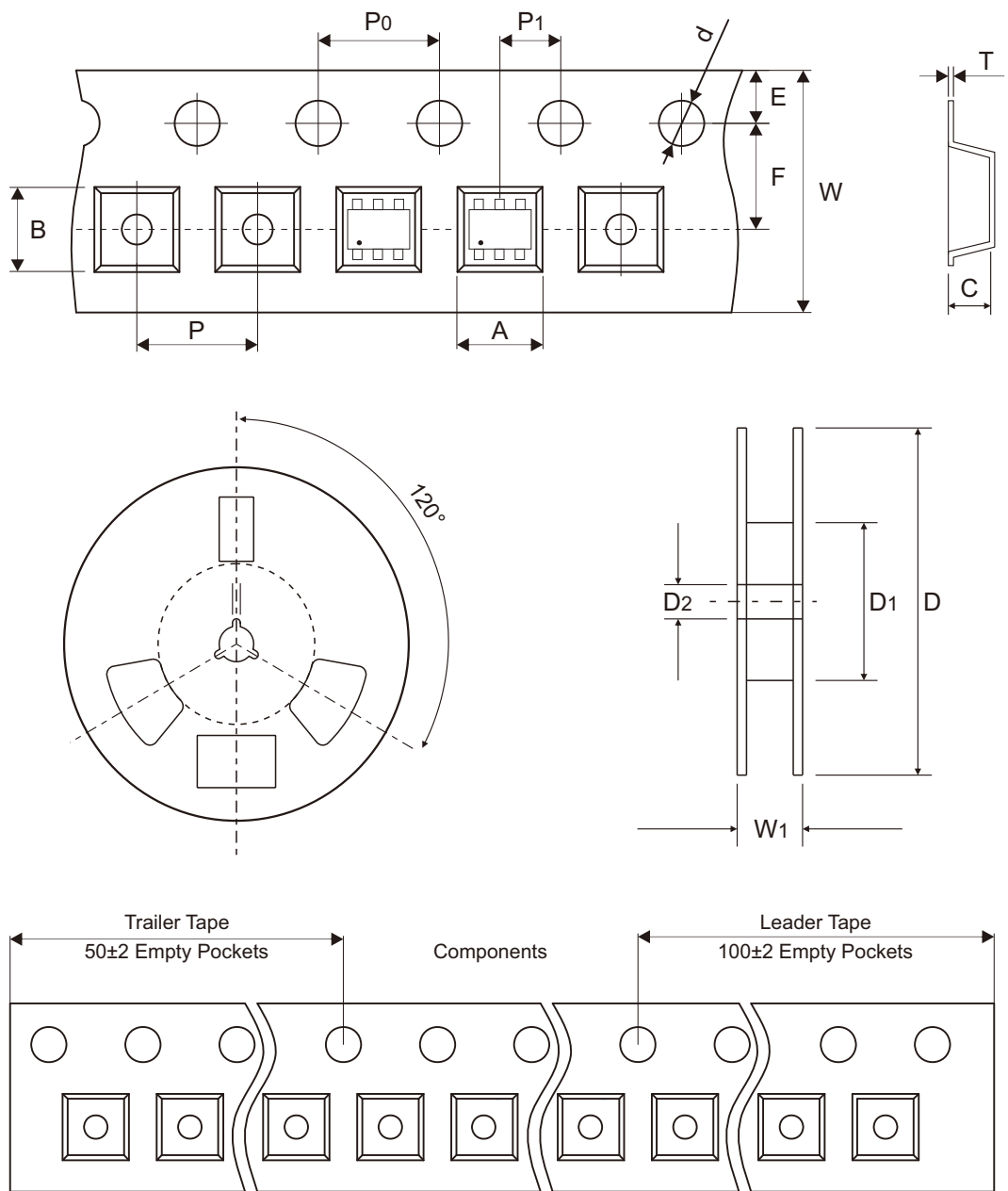


Fig.8 - Output Voltage vs Output Current



Reel Taping Specification

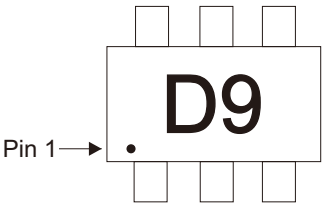


SOT-363	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.40 ± 0.10	2.50 ± 0.10	1.20 ± 0.10	1.50 ± 0.10	178.00 ± 1.00	54.00 ± 0.50	13.00 ± 0.50
	(inch)	0.094 ± 0.004	0.098 ± 0.004	0.047 ± 0.004	0.059 ± 0.004	7.008 ± 0.039	2.126 ± 0.020	0.512 ± 0.020

SOT-363	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.20 ± 0.02	8.00 + 0.30 - 0.10	12.50 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.001	0.315 + 0.012 - 0.004	0.492 ± 0.039

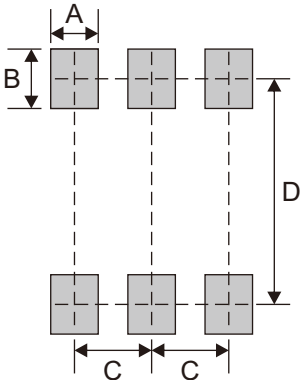
Marking Code

Part Number	Marking Code
AUMD9N-HF	D9



Suggested P.C.B. PAD Layout

SIZE	SOT-363	
	(mm)	(inch)
A	0.40	0.016
B	0.50	0.020
C	0.65	0.026
D	1.90	0.075



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-363	3,000	7