ABC858BW-HF Datasheet

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DiGi Electronics Part Number	ABC858BW-HF-DG
Manufacturer	Comchip Technology
Manufacturer Product Number	ABC858BW-HF
Description	TRANS PNP 30V 0.1A SOT323
Detailed Description	Bipolar (BJT) Transistor PNP 30 V 100 mA 250MHz 200 mW Surface Mount SOT-323

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Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
ABC858BW-HF	Comchip Technology
Series:	Product Status:
-	Active
Transistor Type:	Current - Collector (Ic) (Max):
PNP	100 mA
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
30 V	650mV @ 5mA, 100mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
15nA (ICBO)	220 @ 2mA, 5V
Power - Max:	Frequency - Transition:
200 mW	250MHz
Operating Temperature:	Mounting Type:
-65°C ~ 150°C (TJ)	Surface Mount
Package / Case:	Supplier Device Package:
SC-70, SOT-323	SOT-323
Base Product Number:	
ABC858	

Environmental & Export classification

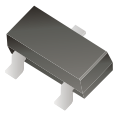
RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
ECCN:	HTSUS:
EAR99	8541.21.0075

General Purpose Transistor

ABC856AW-HF Thru. ABC858CW-HF (PNP)

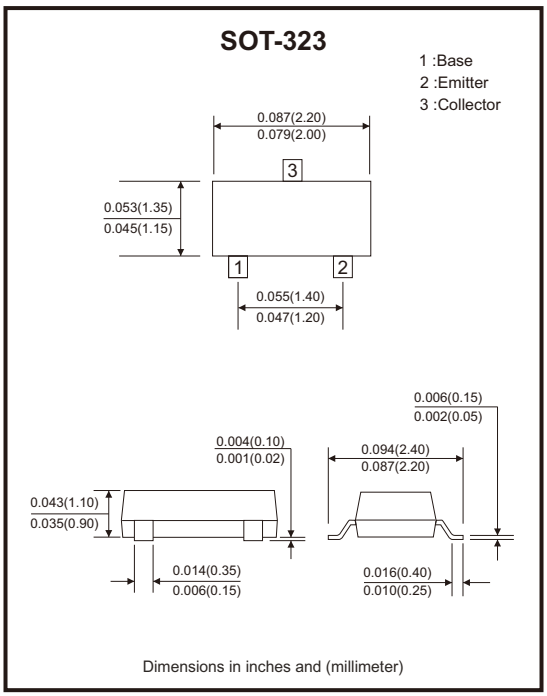
RoHS Device

Halogen Free



Features

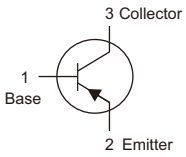
- For AF input stages and driver applications.
- High current gain.
- Low collector-emitter saturation voltage.
- Low noise between 30Hz and 15kHz.
- AEC-Q101 Qualified.



Mechanical data

- Case: SOT-323, molded plastic.

Circuit Diagram



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

Parameter		Symbol	Value	Unit
Collector-base voltage	ABC856W-HF ABC857W-HF ABC858W-HF	V_{CBO}	-80 -50 -30	V
Collector-emitter voltage	ABC856W-HF ABC857W-HF ABC858W-HF	V_{CEO}	-65 -45 -30	V
Emitter-base voltage		V_{EBO}	-5	V
Collector current-continuous		I_C	-100	mA
Peak collector current		I_{CM}	-200	mA
Peak base current		I_{BM}	-200	mA
Collector dissipation		P_C	200	mW
Junction and storage temperature range		T_J, T_{STG}	-65 to +150	°C

General Purpose Transistor

Electrical Characteristics (Ta= 25°C unless otherwise specified)

Parameter		Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	ABC856W-HF ABC857W-HF ABC858W-HF	$V_{(BR)CBO}$	I_C = -10μA, I_E = 0	-80 -50 -30			V
Collector-emitter breakdown voltage	ABC856W-HF ABC857W-HF ABC858W-HF	$V_{(BR)CEO}$	I_C = -10mA, I_B = 0	-65 -45 -30			V
Emitter-base breakdown voltage		$V_{(BR)EBO}$	I_E = -1μA, I_C = 0	-5			V
Collector cut-off current		I_{CBO}	V_{CB} = -30V, I_E = 0			-15	nA
Emitter cut-off current		I_{EBO}	V_{EB} = -5V, I_C = 0			-0.1	μA
DC current gain	ABC856AW, 857AW, 858AW ABC856BW, 857BW, 858BW ABC857CW, 858CW	h_{FE}	V_{CE} = -5V, I_C = -10μA		140 250 480		
DC current gain	ABC856AW, 857AW, 858AW ABC856BW, 857BW, 858BW ABC857CW, 858CW	h_{FE}	V_{CE} = -5V, I_C = -2mA	125 220 420	180 290 520	250 475 800	
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C= -10mA , I_B = -0.5mA I_C= -100mA , I_B = -5mA		-0.075 -0.25	-0.3 -0.65	V
Base-emitter saturation voltage		$V_{BE(sat)}$	I_C = -10mA, I_B = -0.5mA I_C = -100mA, I_B = -5mA		-0.7 -0.85		V
Base-emitter voltage		$V_{BE(on)}$	I_C = -2mA, V_{CE} = 5V I_C = -10mA, V_{CE} = 5V	-0.6 -		-0.75 -0.82	V
Transition frequency		f_T	V_{CE} = -5V, I_C = -20mA, f = 100MHz		250		MHz
Collector-base capacitance		C_{cb}	V_{CB} = -10V, f = 1MHz		3	5	pF
Emitter-base capacitance		C_{eb}	V_{EB} = -0.5V, f = 1MHz		10	15	pF

Rating and Characteristic Curves (ABC856AW-HF Thru. ABC858CW-HF)

Fig.1 - Total Power Dissipation

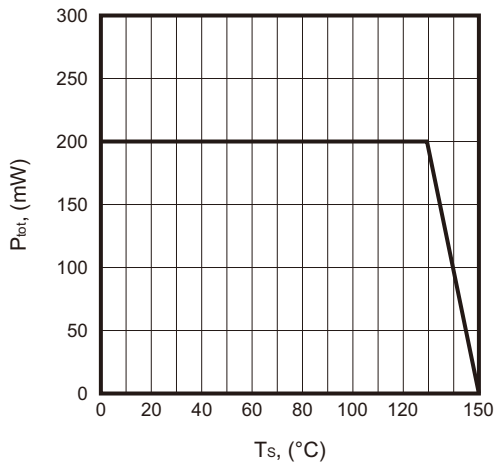
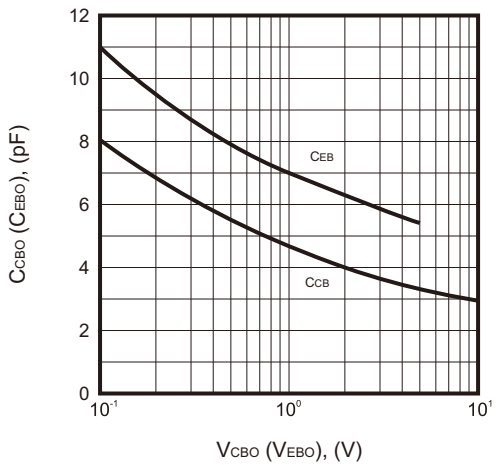


Fig.2 - Collector-Base Capacitance
Emitter-Base Capacitance



Company reserves the right to improve product design , functions and reliability without notice.

General Purpose Transistor

Rating and Characteristic Curves (ABC856AW-HF Thru. ABC858CW-HF)

Fig.3 - Transition Frequency

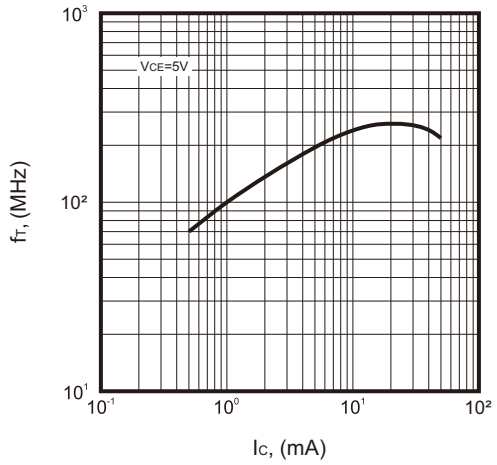


Fig.4 - Collector Cutoff Current

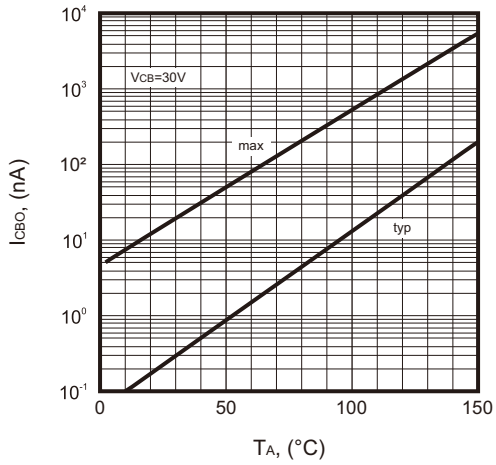


Fig.5 - Collector-Emitter Saturation Voltage

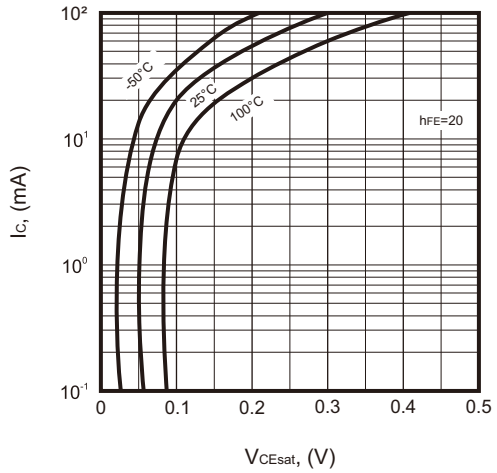


Fig.6 - DC Current Gain

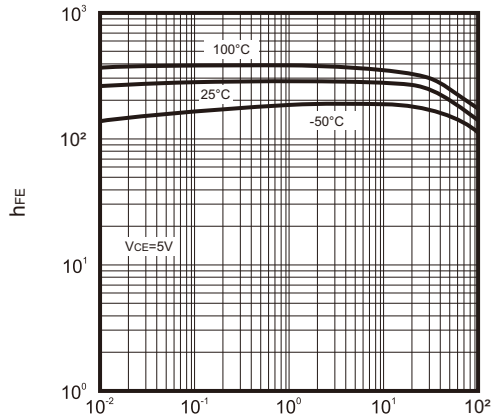
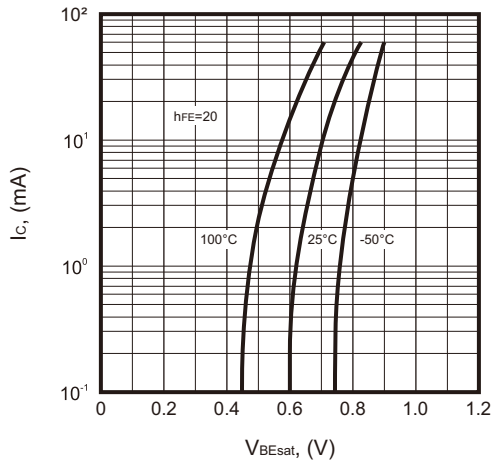


Fig.7 - Base-Emitter Saturation Voltage



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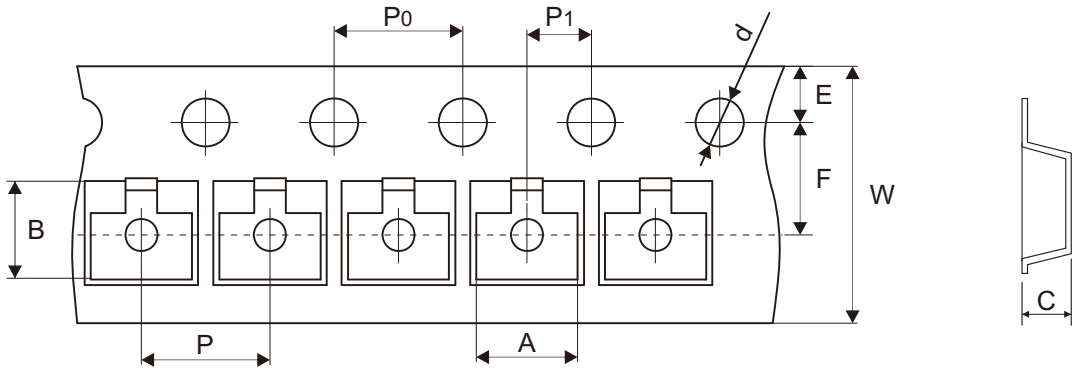
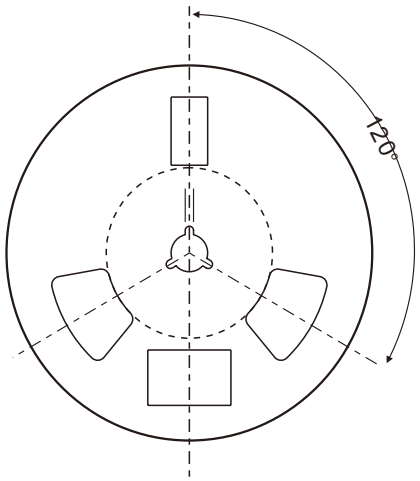
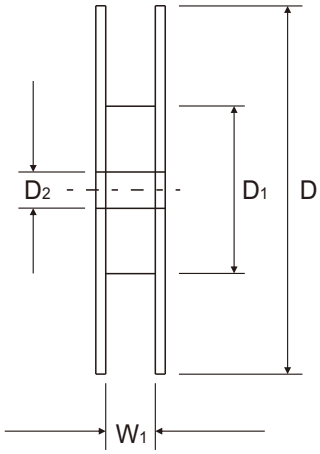
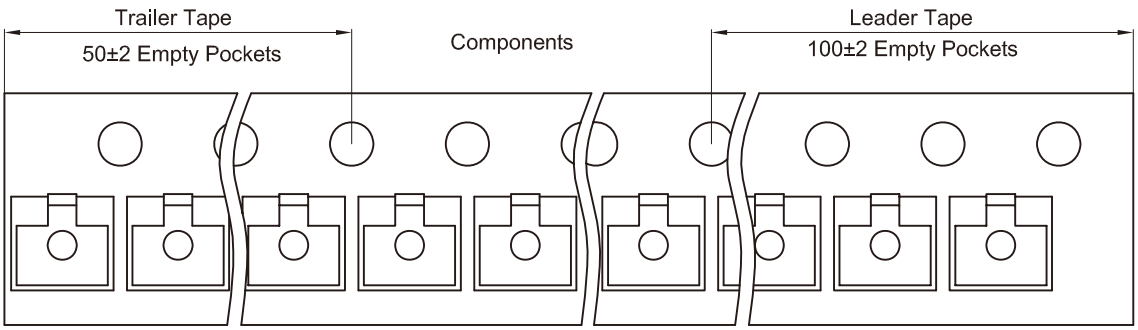
General Purpose Transistor

Reel Taping Specification









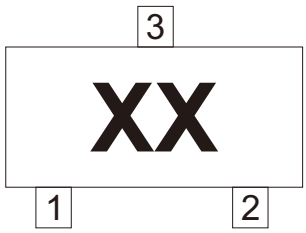
	SYMBOL	A	B	C	d	D	D1	D2
SOT-323	(mm)	2.25 ± 0.10	2.55 ± 0.10	1.20 ± 0.10	1.50 ± 0.10	178.00 ± 1.00	54.00 ± 0.50	13.00 ± 0.50
	(inch)	0.089 ± 0.004	0.100 ± 0.004	0.047 ± 0.004	0.059 ± 0.004	7.008 ± 0.039	2.126 ± 0.020	0.512 ± 0.020

	SYMBOL	E	F	P	P0	P1	W	W1
SOT-323	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	8.00 + 0.30 − 0.10	9.50 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.315 + 0.012 − 0.004	0.374 ± 0.039

General Purpose Transistor

Marking Code

Part Number	Marking Code
ABC856AW-HF	3A
ABC857AW-HF	3E
ABC858AW-HF	3J
ABC856BW-HF	3B
ABC857BW-HF	3F
ABC858BW-HF	3K
ABC857CW-HF	3G
ABC858CW-HF	3L

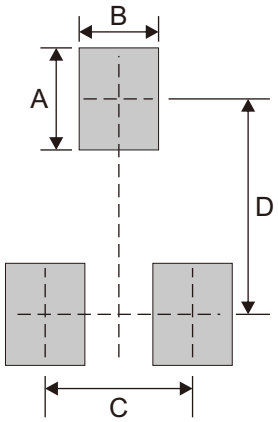


xx = Product type marking code

Suggested P.C.B. PAD Layout

SIZE	SOT-323	
	(mm)	(inch)
A	0.90	0.035
B	0.70	0.028
C	1.30	0.051
D	1.90	0.075

Note: 1.The pad layout is for reference purposes only.



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-323	3,000	7

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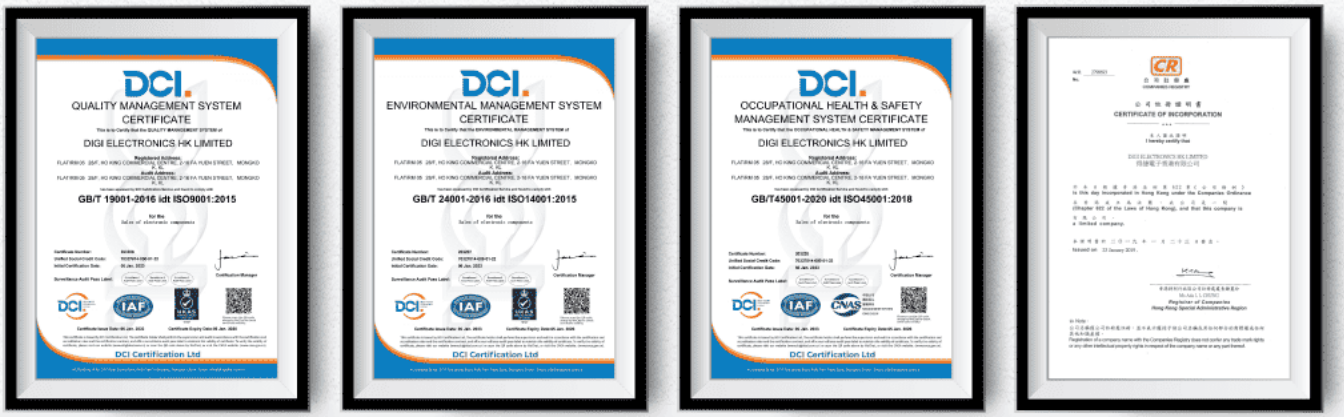

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