



BC856AS

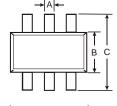
DUAL PNP SURFACE MOUNT SMALL SIGNAL TRANSISTOR

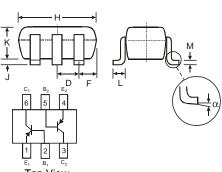
Features

- Ideally Suited for Automatic Insertion
- For Switching and AF Amplifier Applications
- Complementary NPN Types Available (BC846AS)
- Lead Free/RoHS Compliant (Note 1)
- "Green" Device (Note 4 and 5)

Mechanical Data

- Case: SOT-363
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Pin Connections: See Diagram
- Marking Codes: See Page 3
- Ordering & Date Code Information: See Page 3
- Weight: 0.006 grams (approximate)





SOT-363								
Dim	Min	Max						
Α	0.10	0.30						
В	1.15	1.35						
С	2.00 2.20							
D	0.65 Nominal							
F	0.30	0.40						
Н	1.80	2.20						
J	_	0.10						
K	0.90	1.00						
L	0.25	0.40						
М	0.10	0.25						
α	0°	8°						
ΔII Din	All Dimensions in mm							

All Dimensions in mm

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Value	Unit	
Collector-Base Voltage		V_{CBO}	-80	V	
Collector-Emitter Voltage		V_{CEO}	-65	V	
Emitter-Base Voltage		V_{EBO}	-5.0	V	
Collector Current		lc	-100	mA	
Peak Collector Current		I _{CM}	-200	mA	
Peak Emitter Current		I _{EM}	-200	mA	
Power Dissipation	(Note 2)	P_d	200	mW	
Thermal Resistance, Junction to Ambient	(Note 2)	$R_{ hetaJA}$	625	°C/W	
Operating and Storage Temperature Range		T _j , T _{stg}	-65 to +150	°C	

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition	
Collector-Base Breakdown Voltage	(Note 3)	V _{(BR)CBO}	-80	_	_	V	$I_C = 10\mu A, I_B = 0$
Collector-Emitter Breakdown Voltage	(Note 3)	V _{(BR)CEO}	-65	_	_	V	$I_C = 10 \text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage	(Note 3)	V _{(BR)EBO}	-5	_	_	V	$I_E = 1 \mu A, I_C = 0$
DC Current Gain	(Note 3)	h _{FE}	125	180	250	_	$V_{CE} = -5.0V, I_{C} = -2.0mA$
Collector-Emitter Saturation Voltage	(Note 3)	V _{CE(SAT)}	_	-75 -250	-300 -650	mV	$I_C = -10 \text{mA}, I_B = -0.5 \text{mA}$ $I_C = -100 \text{mA}, I_B = -5.0 \text{mA}$
Base-Emitter Saturation Voltage	(Note 3)	V _{BE(SAT)}		-700 -850	_	mV	$I_C = -10 \text{mA}, I_B = -0.5 \text{mA}$ $I_C = -100 \text{mA}, I_B = -5.0 \text{mA}$
Base-Emitter Voltage	(Note 3)	V _{BE(ON)}	-600 —	-650 —	-750 -820	mV	$V_{CE} = -5.0V, I_{C} = -2.0mA$ $V_{CE} = -5.0V, I_{C} = -10mA$
Collector-Cutoff Current	(Note 3)	I _{CES} I _{CBO} I _{CBO}	_ _ _	_ _ _	-15 -15 -4.0	nA nA μA	V _{CB} = -80V V _{CB} = -30V V _{CB} = -30V, T _A = 150°C
Gain Bandwidth Product		f_T	100	_	_	MHz	V _{CE} = -5.0V, I _C = -10mA, f = 100MHz
Collector-Base Capacitance		Ссв	_	3	_	pF	V _{CB} = -10V, f = 1.0MHz

Notes: 1.

- 1. No purposefully added lead.
- 2. Device mounted on FR-4 PCB; pad layout as shown on page 3 or on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
- 3. Short duration pulse test used to minimize self-heating effect.
- 4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
- Product manufactured with Date Code UO (week 40, 2007) and newer are built with Green Molding Compound. Product manufactured prior to Date Code UO are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.



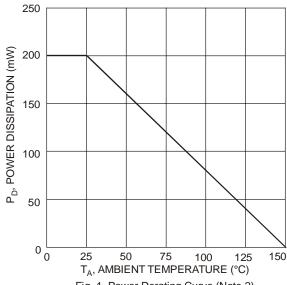


Fig. 1 Power Derating Curve (Note 2)

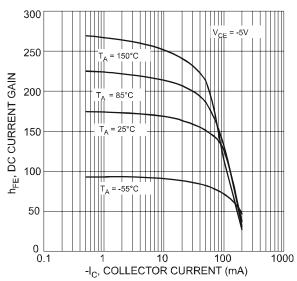


Fig. 3 Typical DC Current Gain vs. Collector Current

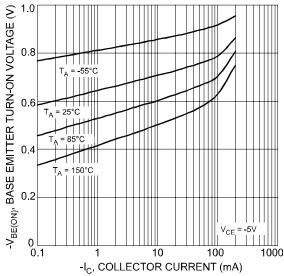


Fig. 5 Typical Base Emitter Turn-On Voltage vs. Collector Current

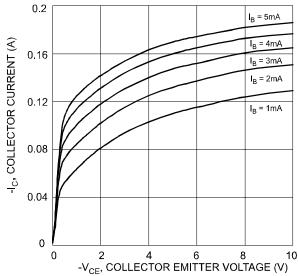


Fig. 2 Typical Collector Current vs. Collector Emitter Voltage

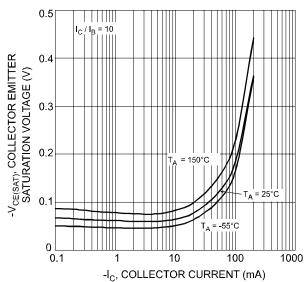


Fig. 4 Typical Collector Emitter Saturation Voltage vs. Collector Current

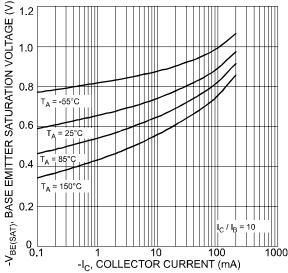
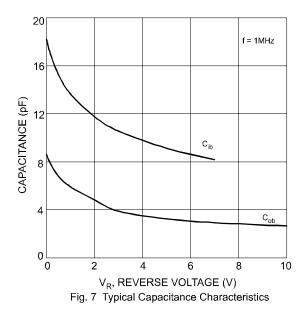
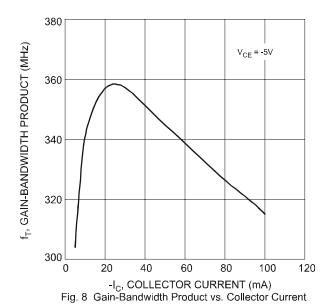


Fig. 6 Typical Base Emitter Saturation Voltage vs. Collector Current





2007

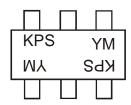


Ordering Information (Note 6)

Device	Packaging	Shipping		
BC856AS-7	SOT-363	3000/Tape & Reel		

6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



2008

KPS = Product Type Marking Code YM = Date Code Marking Y = Year ex: U = 2007 M = Month ex: 9 = September

2010

Data Code Key

Year

Code	ι	J	V	/	W		X		Y		Z	
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Λιια	Sep	Oct	Nov	Dec
WOTEH	Jan	160	IVIAI	Λþi	iviay	Juli	Jui	Aug	Sep	OCI	INOV	Dec
Code	1	2	3	4	5	6	7	R	9	0	N	D

2009

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