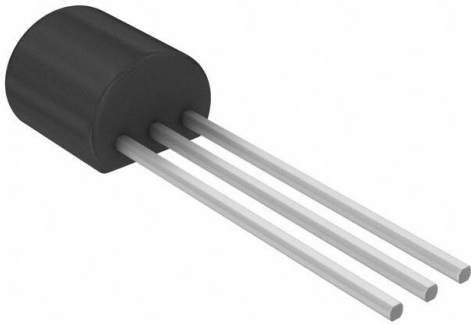


KSA928AOTA Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	KSA928AOTA-DG
Manufacturer	onsemi
Manufacturer Product Number	KSA928AOTA
Description	TRANS PNP 30V 2A TO92-3
Detailed Description	Bipolar (BJT) Transistor PNP 30 V 2 A 120MHz 1 W Th rough Hole TO-92-3



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

KSA928AOTA

Series:

-

Transistor Type:

PNP

Voltage - Collector Emitter Breakdown (Max):

30 V

Current - Collector Cutoff (Max):

100nA (ICBO)

Power - Max:

1 W

Operating Temperature:

150°C (TJ)

Package / Case:

TO-226-3, TO-92-3 Long Body (Formed Leads)

Base Product Number:

KSA928

Manufacturer:

onsemi

Product Status:

Obsolete

Current - Collector (Ic) (Max):

2 A

Vce Saturation (Max) @ Ib, Ic:

2V @ 30mA, 1.5A

DC Current Gain (hFE) (Min) @ Ic, Vce:

100 @ 500mA, 2V

Frequency - Transition:

120MHz

Mounting Type:

Through Hole

Supplier Device Package:

TO-92-3

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.29.0075

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

PNP Epitaxial Silicon Transistor

KSA928A

Features

- Audio Power Amplifier
- Complement to KSC2328A
- 3 W Output Application

ABSOLUTE MAXIMUM RATINGS

(Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.) (Notes 1, 2)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-30	V
V_{CEO}	Collector-Emitter Voltage	-30	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-2	A
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 to +150	$^\circ\text{C}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

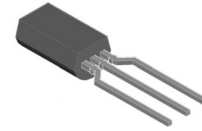
1. These ratings are based on a maximum junction temperature of 150°C .
2. These are steady-state limits. **onsemi** should be consulted on applications involving pulsed or low-duty-cycle operations.

THERMAL CHARACTERISTICS

(Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.) (Note 3)

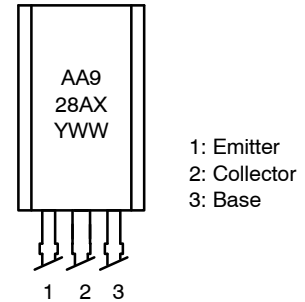
Symbol	Parameter	Value	Unit
P_D	Power Dissipation	1000	mW
	Derate Above 25°C	8.0	mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	125	$^\circ\text{C}/\text{W}$

3. PCB size: FR-4, 76 mm \times 114 mm \times 1.57 mm (3.0 inch \times 4.5 inch \times 0.062 inch) with minimum land pattern size.



TO-92 3 LF
CASE 135AM

MARKING DIAGRAM



A = Assembly Code
A928A = Device Code
X = O / Y
YWW = Date Code

ORDERING INFORMATION

Device	Package	Shipping
KSA928AOTA	TO-92 3 LF (Pb-Free)	2000 / Fan-Fold
KSA928AYTA	TO-92 3 LF (Pb-Free)	2000 / Fan-Fold

KSA928A**ELECTRICAL CHARACTERISTICS**(Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = -100 \mu\text{A}, I_E = 0$	-30	-	-	V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = -10 \text{ mA}, I_B = 0$	-30	-	-	V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = -1 \text{ mA}, I_C = 0$	-5	-	-	V
I_{CBO}	Collector Cut-Off Current	$V_{CB} = -30 \text{ V}, I_E = 0$	-	-	-100	nA
I_{EBO}	Emitter Cut-Off Current	$V_{EB} = -5 \text{ V}, I_C = 0$	-	-	-100	nA
h_{FE}	DC Current Gain	$V_{CE} = -2 \text{ V}, I_C = -500 \text{ mA}$	100	-	320	
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = -2 \text{ V}, I_C = -500 \text{ mA}$	-	-	-1.0	V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -1.5 \text{ A}, I_B = -30 \text{ mA}$	-	-	-2.0	V
f_T	Current Gain Bandwidth Product	$V_{CE} = -2 \text{ V}, I_C = -500 \text{ mA}$	-	120	-	MHz
C_{ob}	Collector Output Capacitance	$V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$	-	48	-	pF

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

 h_{FE} CLASSIFICATION

Classification	O	Y
h_{FE}	100 ~ 200	160 ~ 320

KSA928A

TYPICAL PERFORMANCE CHARACTERISTICS

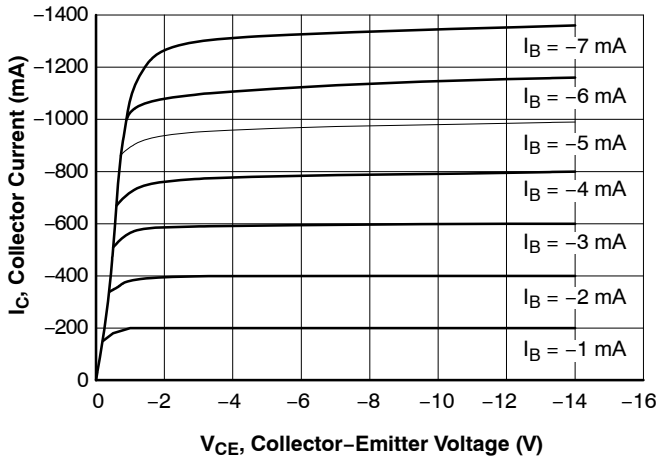


Figure 1. Static Characteristic

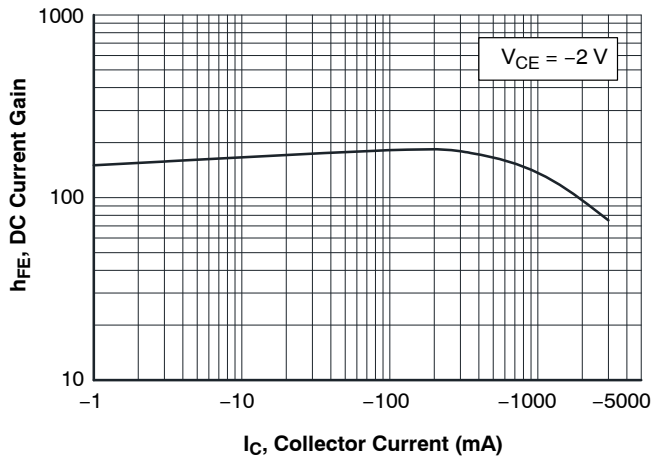


Figure 2. DC Current Gain

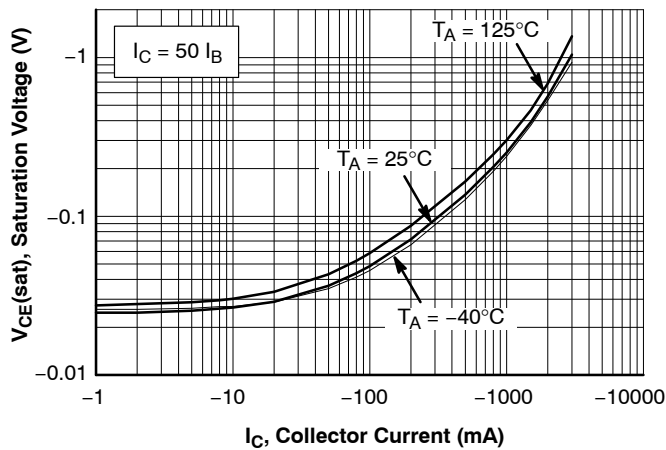


Figure 3. Collector-Emitter Saturation Voltage

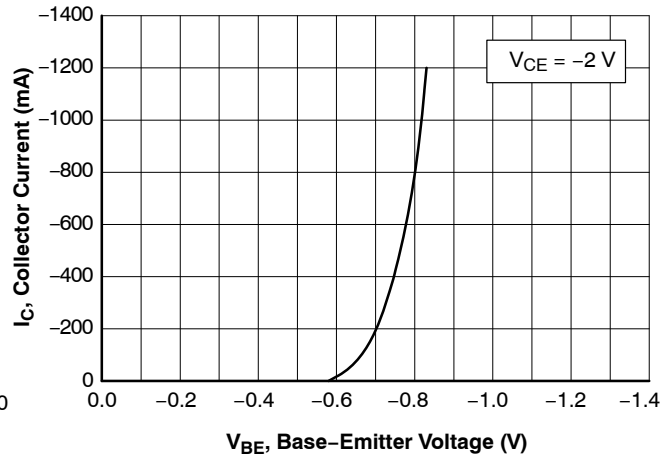


Figure 4. Base-Emitter On Voltage

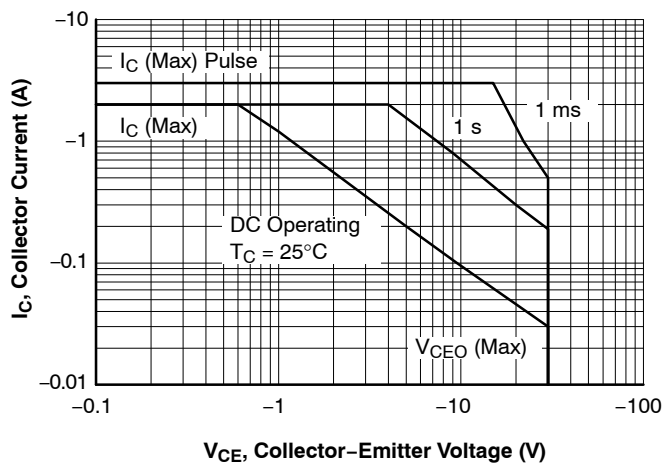


Figure 5. Safe Operating Area

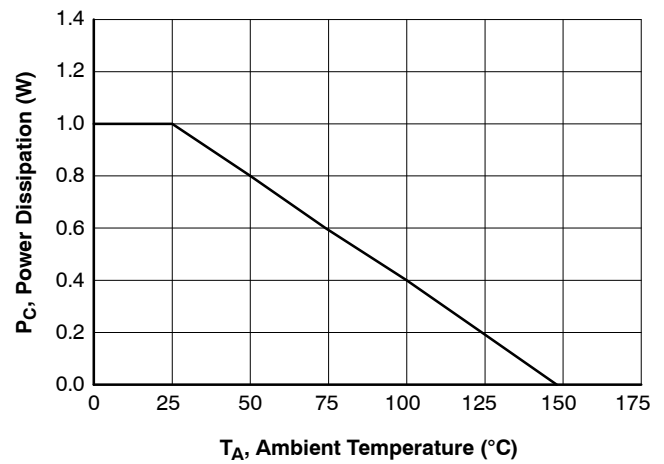
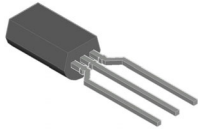
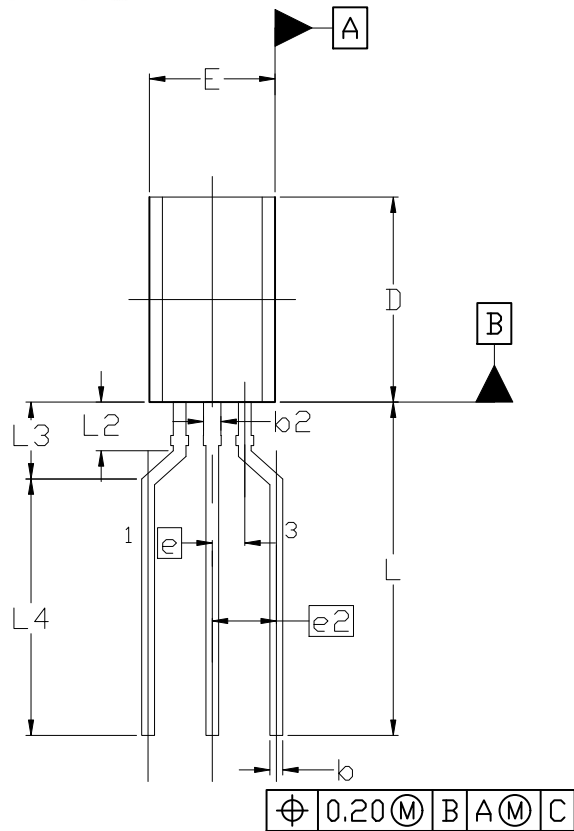


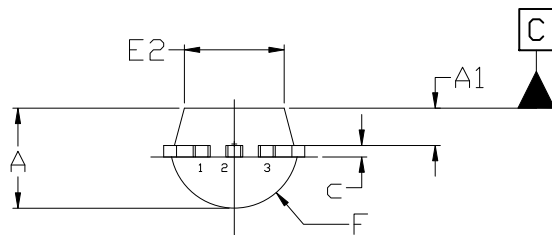
Figure 6. Power Derating


TO-92 3 8.0x4.9 (LEADFORMED)
CASE 135AM
ISSUE B

DATE 14 JAN 2021



TOP VIEW



END VIEW

NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2009.
2. CONTROLLING DIMENSION: MILLIMETERS
3. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, GATE REMAINS AND TIE BAR PROTRUSIONS.
4. DIMENSION b AND b2 DOES NOT INCLUDE DAMBAR PROTRUSION. DIMENSION b2 LOCATED ABOVE THE DAMBAR PORTION OF MIDDLE LEAD.

DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	3.70	3.90	4.10
A1	1.25	1.45	1.65
b	0.35	0.50	0.60
b2	0.62	---	0.78
c	0.35	0.45	0.55
D	7.80	8.00	8.20
E	4.70	4.90	5.10
E2	3.70	3.90	4.10
e	1.27 BSC		
e2	2.50 BSC		
F	2.45 REF		
L	13.00 REF		
L2	1.50	---	1.90
L3	2.60	---	3.40
L4	10.40 REF		

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