KSC945CYBU Datasheet

DiGi Electronics Part Number	KSC945CYBU-DG
Manufacturer	onsemi
Manufacturer Product Number	KSC945CYBU
Description	TRANS NPN 50V 0.15A TO92-3
Detailed Description	Bipolar (BJT) Transistor NPN 50 V 150 mA 300MHz 2 50 mW Through Hole TO-92-3

https://www.DiGi-Electronics.com

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
KSC945CYBU	onsemi
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
NPN	150 mA
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
50 V	300mV @ 10mA, 100mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
100nA (ICBO)	120 @ 1mA, 6V
Power - Max:	Frequency - Transition:
250 mW	300MHz
Operating Temperature:	Mounting Type:
150°C (TJ)	Through Hole
Package / Case:	Supplier Device Package:
TO-226-3, TO-92-3 (TO-226AA)	TO-92-3
Base Product Number:	
KSC945	

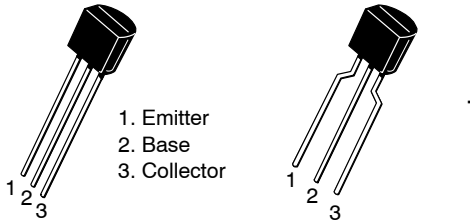
Environmental & Export classification

Moisture Sensitivity Level (MSL):	REACH Status:
1 (Unlimited)	REACH Unaffected
ECCN:	HTSUS:
EAR99	8541.21.0075

DATA SHEET
www.onsemi.com

NPN Epitaxial Silicon Transistor

KSC945



TO−92 3
CASE 135AN

TO−92 3 LF
CASE 135AR

Features

- Audio Frequency Amplifier and High−Frequency OSC
- Complimentary to KSA733
- Collector−Base Voltage: V_{CBO} = 60 V
- High Current Gain Bandwidth Product: f_T = 300 MHz (Typical)
- Suffix "−C" Means Center Collector
  (1. Emitter 2. Collector 3. Base)

ABSOLUTE MAXIMUM RATINGS

(T_A = 25°C unless otherwise noted.)

Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector−Base Voltage	60	V
V_{CEO}	Collector−Emitter Voltage	50	V
V_{EBO}	Emitter−Base Voltage	5	V
I_C	Collector Current	150	mA
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	−55 to 150	°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.

THERMAL CHARACTERISTICS

(T_A = 25°C unless otherwise noted.)

Symbol	Parameter	Value	Unit
P_D	Power Dissipation	250	mW
	Derate Above 25°C	2.0	mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction−to−Ambient	500	°C/W

2. PCB size: FR−4, 76 mm x 114 mm x 1.57 mm (3.0 inch x 4.5 inch x 0.062 inch) with minimum land pattern size.

MARKING DIAGRAM

A = Assembly Site
C945Y = Specific Device Code
Y = Year of Production
WW = Work Week

ORDERING INFORMATION

Device	Package	Shipping
KSC945CYTA	TO−92 3 LF (Pb−Free)	2,000 Units / FNFLD
KSC945YTA	TO−92 3 LF (Pb−Free)	2,000 Units / FNFLD

DISCONTINUED (Note 1)

KSC945YBU	TO−92 3 (Pb−Free)	10,000 Units / Bulk

1. **DISCONTINUED:** This device is not recommended for new design. Please contact your **onsemi** representative for information. The most current information on this device may be available on www.onsemi.com.

KSC945

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
BV_{CBO}	Collector−Base Breakdown Voltage	I_C = 100 μA, I_E = 0	60	–	–	V
BV_{CEO}	Collector−Emitter Breakdown Voltage	I_C = 10 mA, I_B = 0	50	–	–	V
BV_{EBO}	Emitter−Base Breakdown Voltage	I_E = 10 μA, I_C = 0	5	–	–	V
I_{CBO}	Collector Cut−Off Current	V_{CB} = 40 V, I_E = 0	–	–	0.1	μA
I_{EBO}	Emitter Cut−Off Current	V_{EB} = 3 V, I_C = 0	–	–	0.1	μA
h_{FE}	DC Current Gain	V_{CE} = 6 V, I_C = 1.0 mA	120	–	240	
V_{CE}(sat)	Collector−Emitter Saturation Voltage	I_C = 100 mA, I_B = 10 mA	–	0.15	0.30	V
f_T	Current Gain Bandwidth Product	V_{CE} = 6 V, I_C = 10 mA	–	300	–	MHz
C_{ob}	Output Capacitance	V_{CB} = 6 V, I_E = 0, f = 1 MHz	–	2.5	–	pF
NF	Noise Figure	V_{CE} = 6 V, I_C = 0.5 mA, f = 1 kHz, R_S = 500 Ω	–	4.0	–	dB

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.

KSC945

TYPICAL CHARACTERISTICS

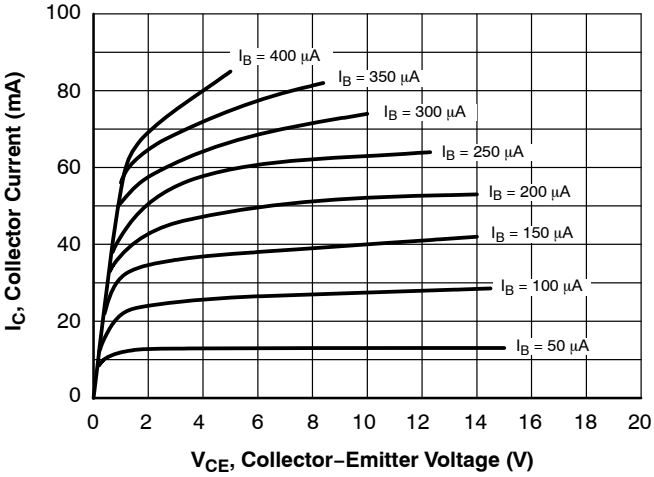


Figure 1. Static Characteristic

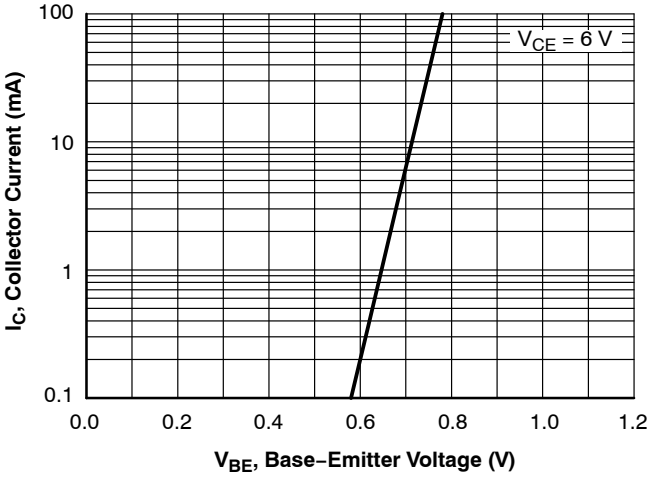


Figure 2. Transfer Characteristic

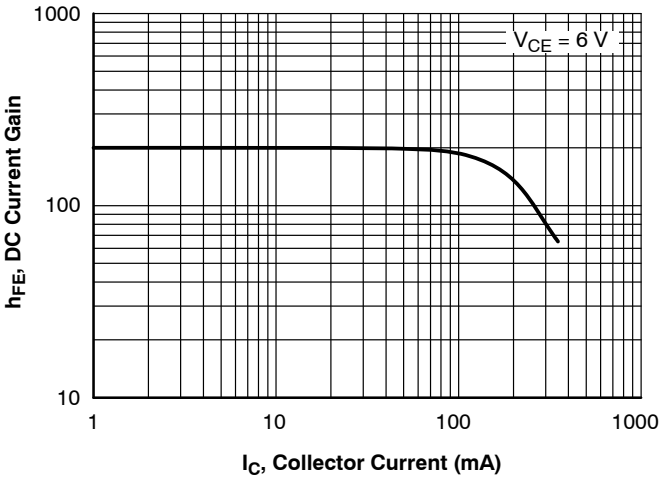


Figure 3. DC Current Gain

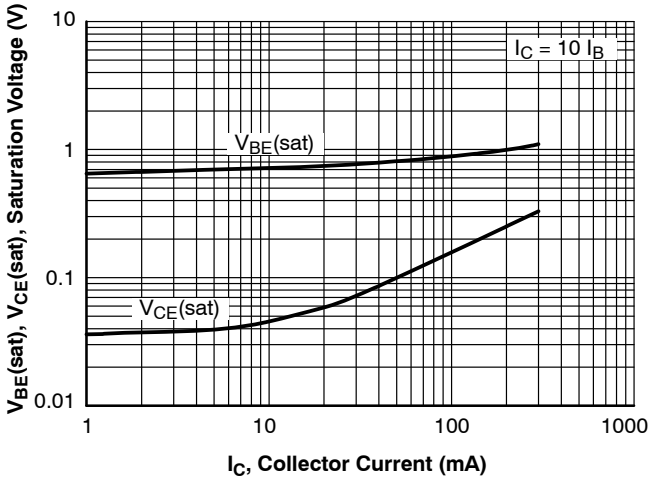


Figure 4. Base−Emitter Saturation Voltage and Collector−Emitter Saturation Voltage

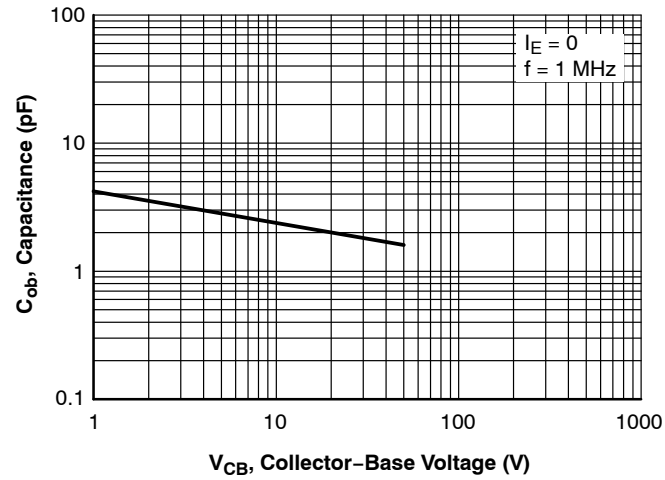


Figure 5. Output Capacitance

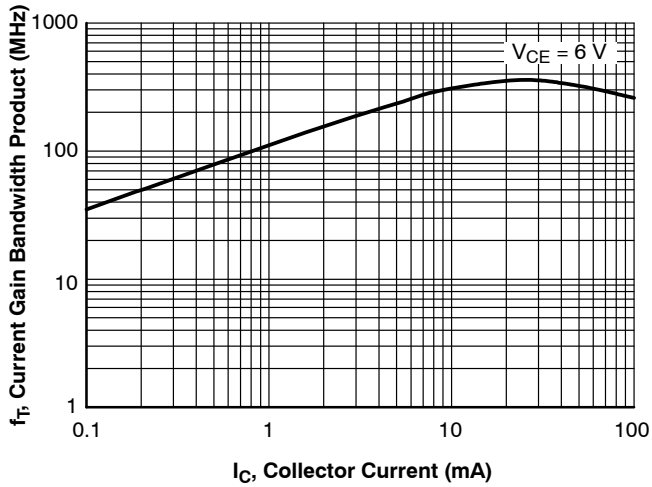
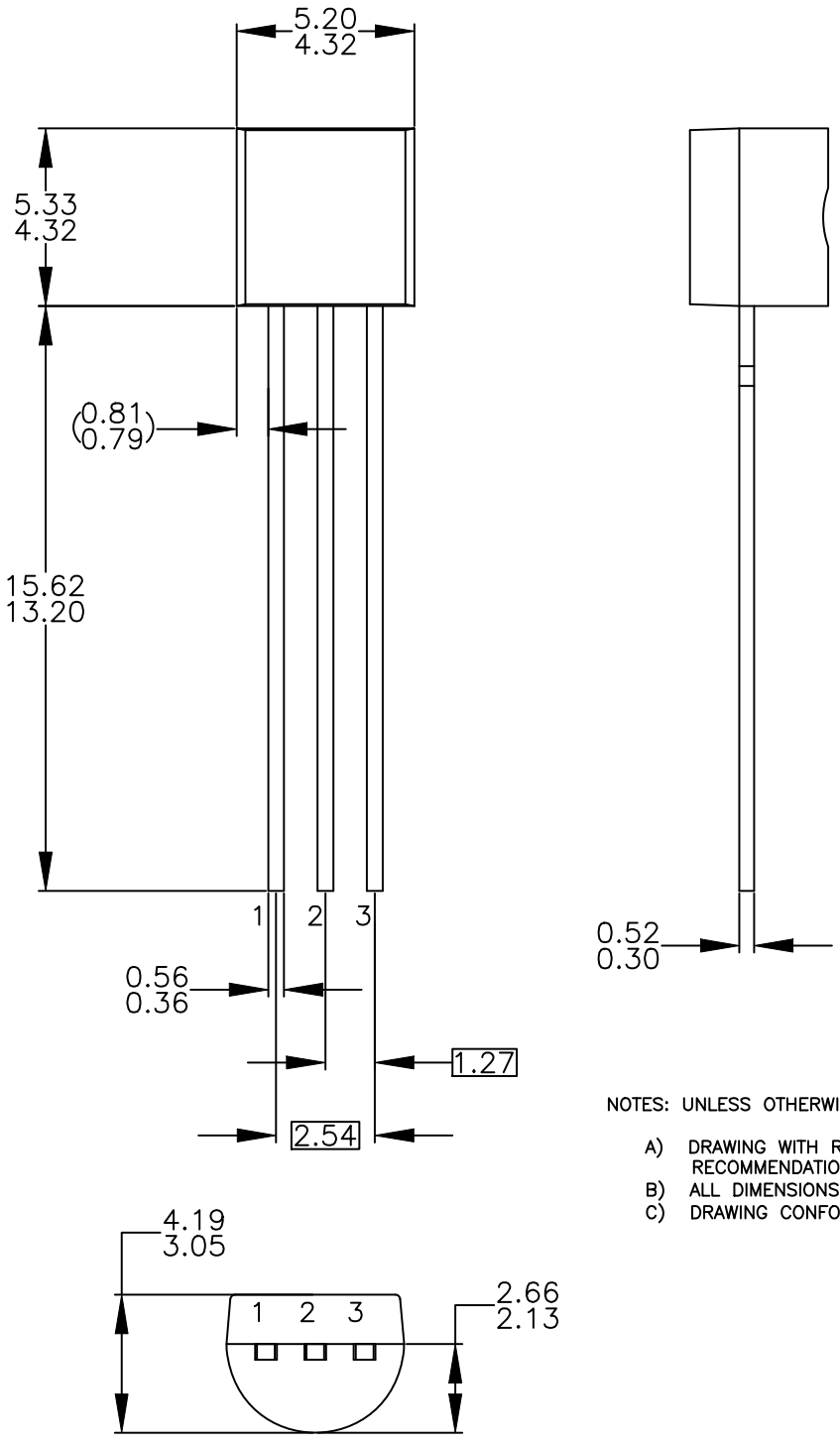


Figure 6. Current Gain Bandwidth Product

MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

TO−92 3 4.825x4.76
CASE 135AN
ISSUE O

DATE 31 JUL 2016



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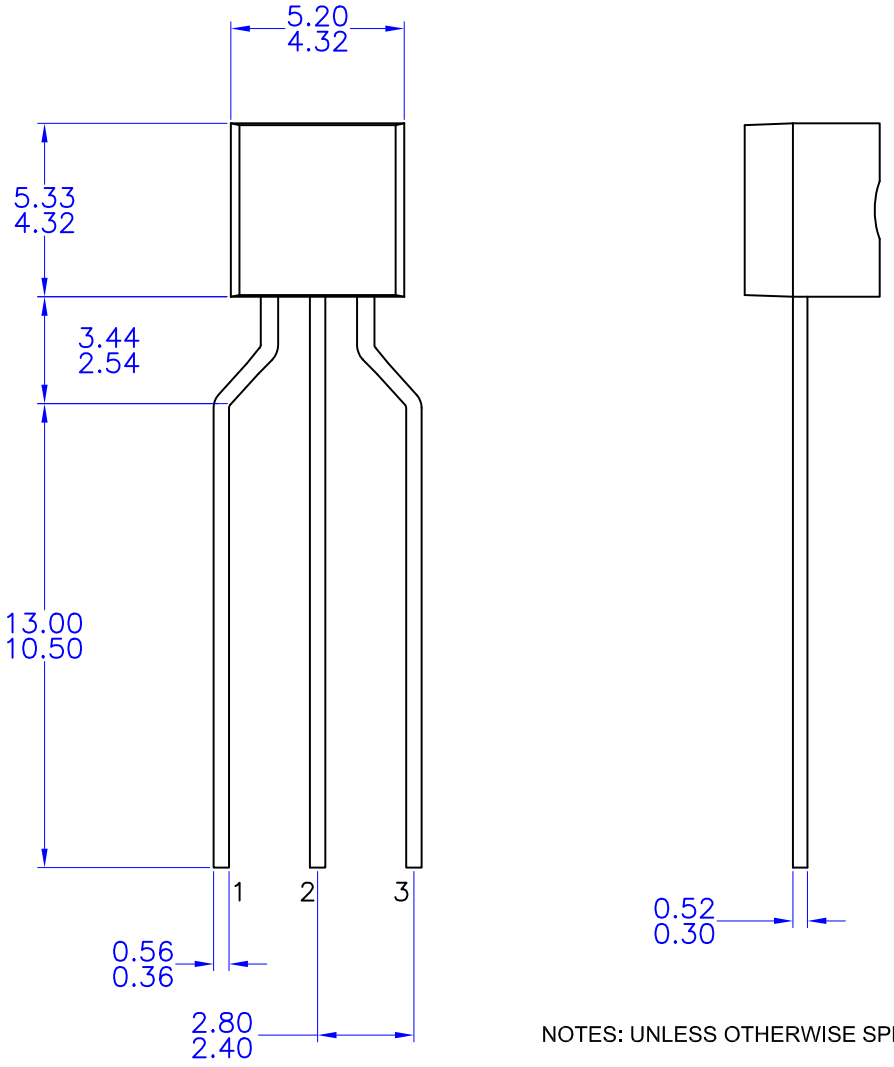
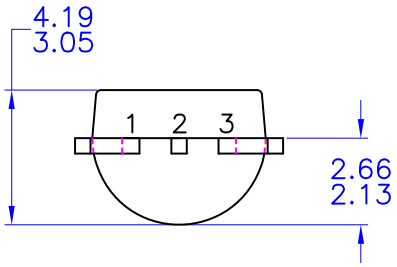
MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

TO−92 3 4.83x4.76 LEADFORMED
CASE 135AR
ISSUE O

DATE 30 SEP 2016





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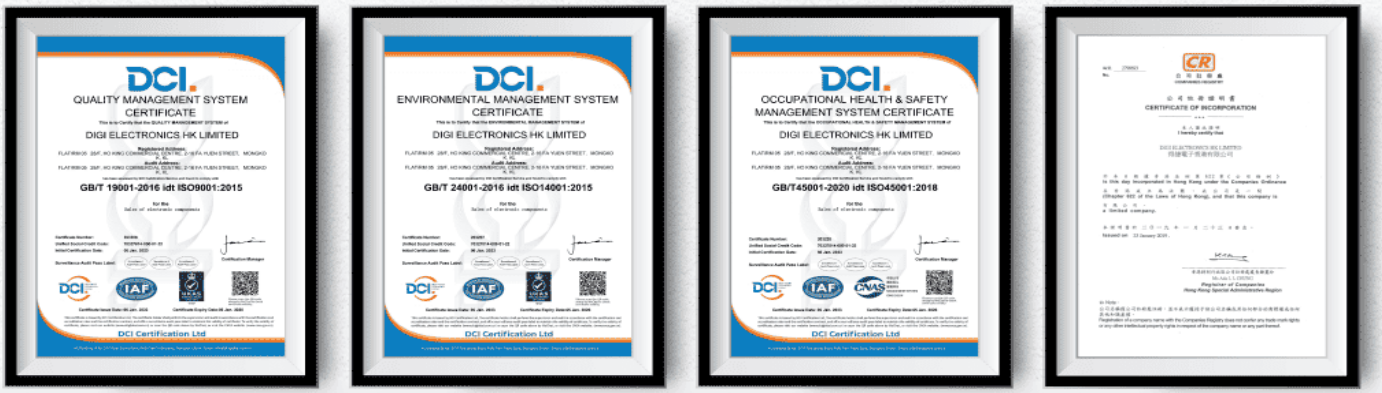

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