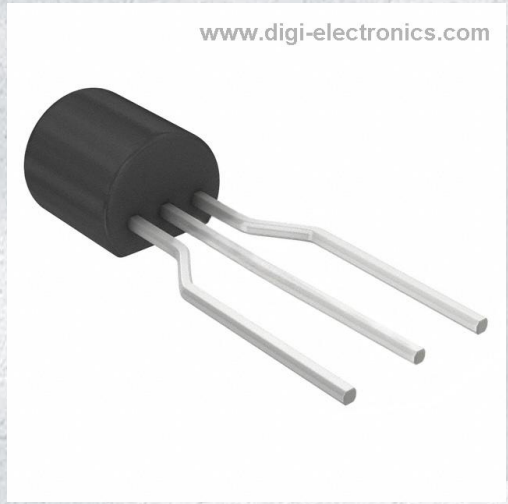
KSP94TA Datasheet



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DiGi Electronics Part Number	KSP94TA-DG
Manufacturer	onsemi
Manufacturer Product Number	KSP94TA
Description	TRANS PNP 400V 0.3A TO92-3
Detailed Description	Bipolar (BJT) Transistor PNP 400 V 300 mA 625 mW Through Hole TO-92-3

Tel: +00 852-30501935

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Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
KSP94TA	onsemi
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
PNP	300 mA
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
400 V	750mV @ 5mA, 50mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
1µA	50 @ 10mA, 10V
Power - Max:	Frequency - Transition:
625 mW	-
Operating Temperature:	Mounting Type:
150°C (TJ)	Through Hole
Package / Case:	Supplier Device Package:
TO-226-3, TO-92-3 (TO-226AA) Formed Leads	TO-92-3
Base Product Number:	
KSP94	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.21.0095	

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December 2015

KSP94
PNP Epitaxial Silicon Transistor

Features

- High Voltage Transistor
- High Collector-Emitter Voltage: V_{CEO} = -400 V
- Low Collector-Emitter Saturation Voltage
- Complement to KSP44

TO-92
1. Emitter
2. Base
3. Collector

Straight Lead Bulk Packing

Bent Lead Tape & Reel Ammo Packing

Ordering Information

Part Number	Top Mark	Package	Packing Method
KSP94BU	KSP94	TO-92 3L	Bulk
KSP94TA	KSP94	TO-92 3L	Ammo

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-400	V
V_{CEO}	Collector-Emitter Voltage	-400	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current	-300	mA
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 to +150	°C

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Thermal Characteristics[1]

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Max.	Unit
P_D	Total Device Dissipation	625	mW
	Derate Above 25°C	5.0	mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	200	°C/W

Note:

1. 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.

Electrical Characteristics

Values are at 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	-400			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = -1 mA, I_B = 0	-400			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = -10 µA, I_C = 0	-6			V
I_{CBO}	Collector Cut-Off Current	V_{CB} = -300 V, I_E = 0			-100	nA
I_{CES}	Collector Cut-Off Current	V_{CE} = -400 V, V_{BE} = 0			-1	µA
I_{EBO}	Emitter Cut-Off Current	V_{EB} = -4 V, I_C = 0			-100	nA
h_{FE}	DC Current Gain	V_{CE} = -10 V, I_C = -1 mA	40			
		V_{CE} = -10 V, I_C = -10 mA	50		300	
		V_{CE} = -10 V, I_C = -50 mA	45			
		V_{CE} = -10 V, I_C = -100 mA	40			
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = -10 mA, I_B = -1 mA			-500	mV
		I_C = -50 mA, I_B = -5 mA			-750	
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = -10 mA, I_B = -1 mA			-750	mV
C_{ob}	Output Capacitance	V_{CB} = -20 V, I_E = 0, f = 1 MHz		7		pF

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Typical Performance Characteristics

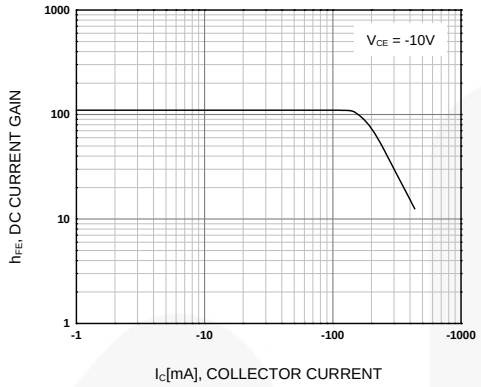

Figure 1. DC Current Gain

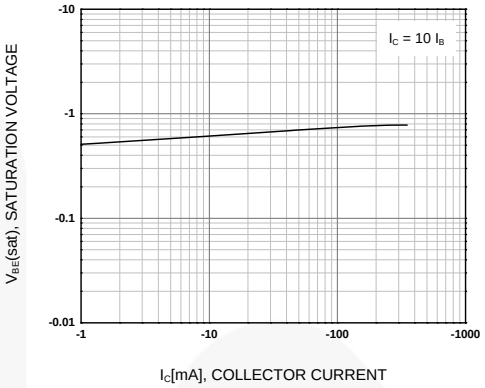

Figure 2. Base-Emitter Saturation Voltage

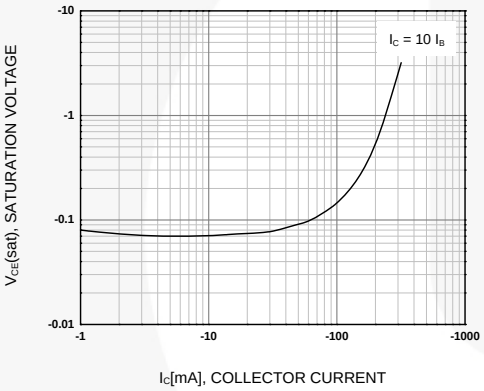

Figure 3. Collector-Emitter Saturation Voltage

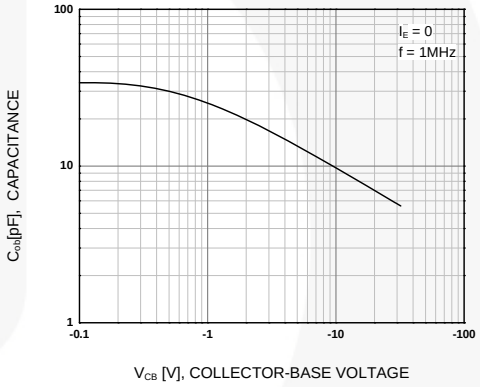

Figure 4. Collector Output Capacitance

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Physical Dimensions

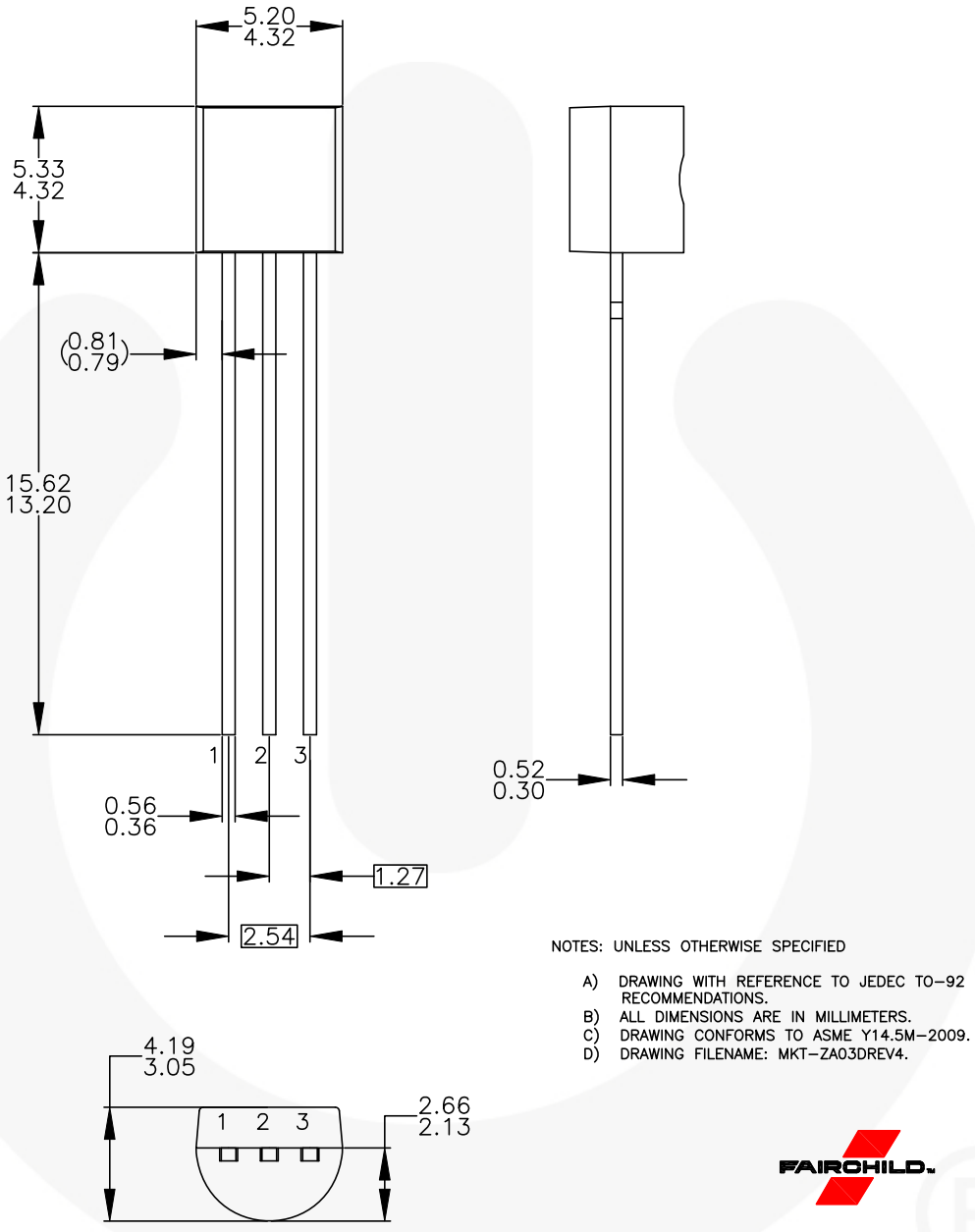

Figure 5. 3-Lead, TO-92, JEDEC TO-92 Compliant Straight Lead Configuration, Bulk Type

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Physical Dimensions (Continued)

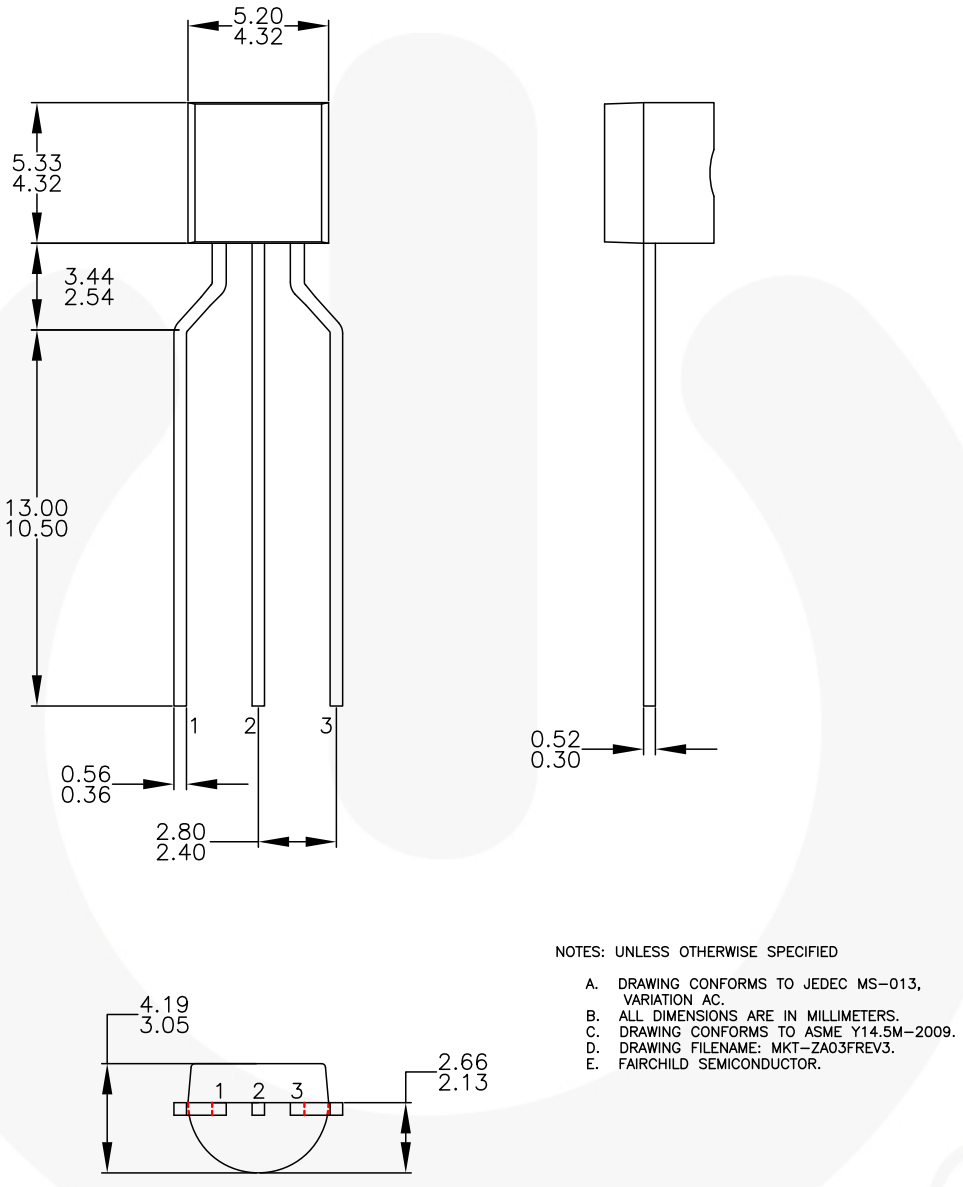

Figure 6. 3-Lead, TO-92, Molded, 0.2 In Line Spacing Lead Form, Ammo Type

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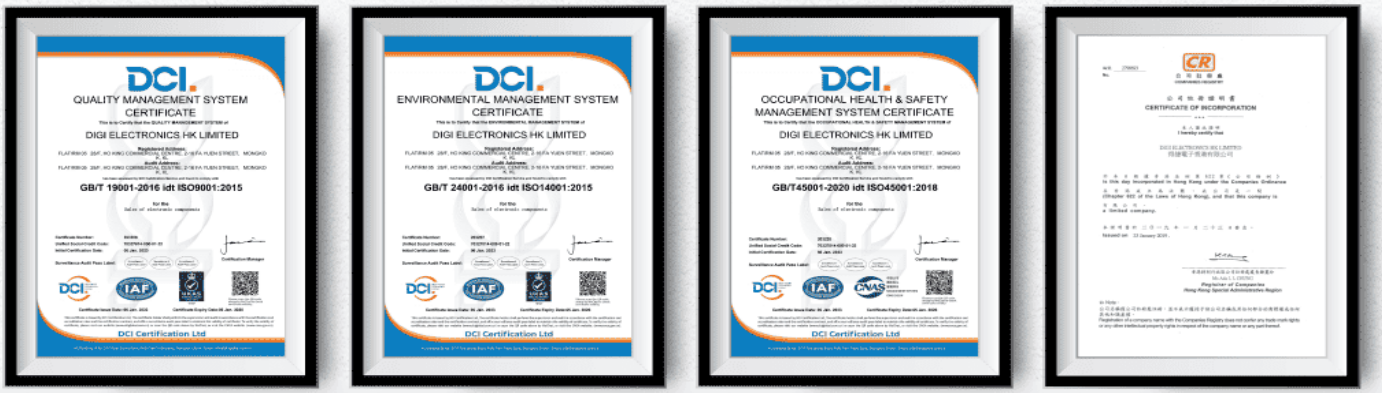

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