

# NPN Epitaxial Silicon Transistor

## KSD526

### Features

- Complement to KSB596
- This is a Pb-Free Device

### Applications

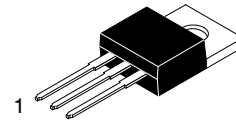
- Power Amplifier Applications

### ABSOLUTE MAXIMUM RATINGS\* ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Ratings	Units
$V_{CBO}$	Collector-Base Voltage	80	V
$V_{CEO}$	Collector-Emitter Voltage	80	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	4	A
$I_B$	Base Current	0.4	A
$P_C$	Collector Dissipation ( $T_C = 25^\circ\text{C}$ )	30	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-55 ~ 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.

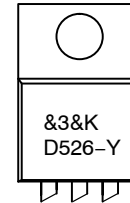
\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.



1. Base
2. Collector
3. Emitter

TO-220-3LD  
CASE 340AT

### MARKING DIAGRAM



- &3 = Date Code
- &K = Lot Traceability Code
- D526-Y = Specific Device Code

### ORDERING INFORMATION

Device	Package	Shipping
KSD526Y	TO-220-3LD (Pb-Free)	1200 Units / Bulk Bag
KSD526YTU	TO-220-3LD (Pb-Free)	1000 Units / Tube

# KSD526

## ELECTRICAL CHARACTERISTICS (T<sub>C</sub> = 25°C unless otherwise noted)

Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
I <sub>CBO</sub>	Collector Cut-off Current	V <sub>CB</sub> = 80 V, I <sub>E</sub> = 0			30	μA
I <sub>EBO</sub>	Emitter Cut-off Current	V <sub>EB</sub> = 5 V, I <sub>C</sub> = 0			100	μA
BV <sub>CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 50 mA, I <sub>B</sub> = 0	80			V
BV <sub>EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 10 mA, I <sub>C</sub> = 0	5			V
h <sub>FE</sub>	DC Current Gain	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 0.5 A V <sub>CE</sub> = 5 V, I <sub>C</sub> = 3 A	40 15	50	240	
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 3 A, I <sub>B</sub> = 0.3 A		0.45	1.5	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 3 A		1	1.5	V
f <sub>T</sub>	Current Gain - Bandwidth Product	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 0.5 A	3	8		MHz
C <sub>cb</sub>	Collector Output Capacitance	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1 MHz		90		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<sub>FE</sub> CLASSIFICATION

Classification	R	O	Y
h <sub>FE</sub>	40 ~ 80	70 ~ 140	120 ~ 240

TYPICAL CHARACTERISTICS

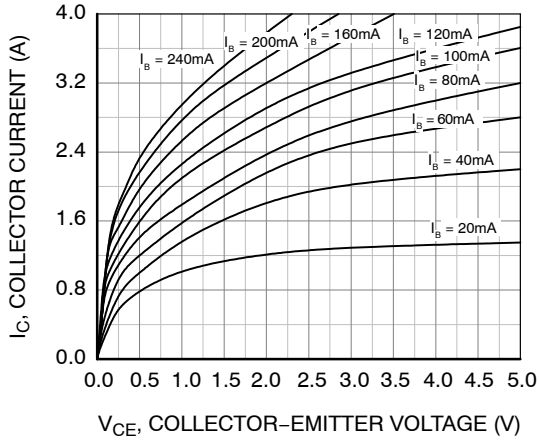


Figure 1. Static Characteristic

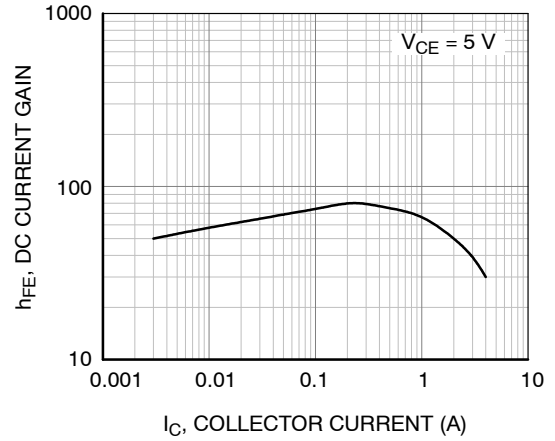


Figure 2. DC Current Gain

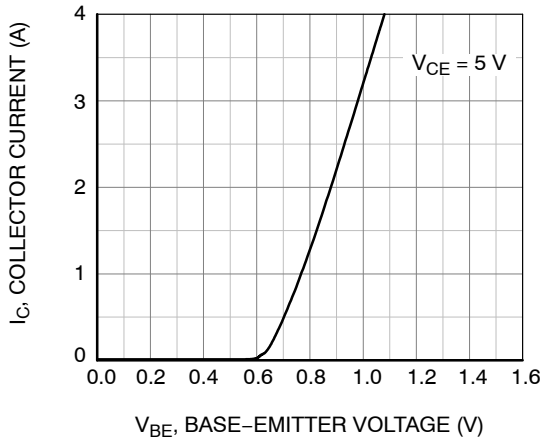


Figure 3. Base-Emitter On Voltage

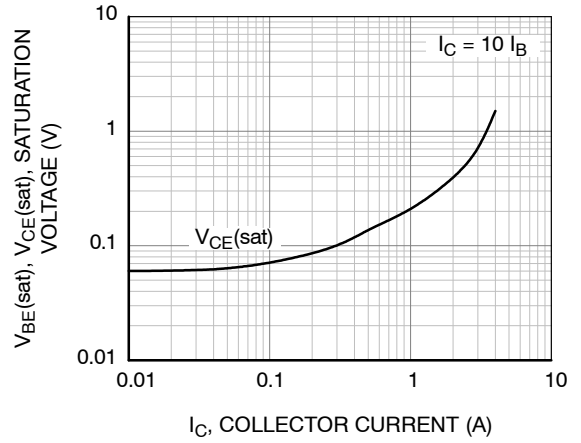


Figure 4. Collector-Emitter Saturation Voltage

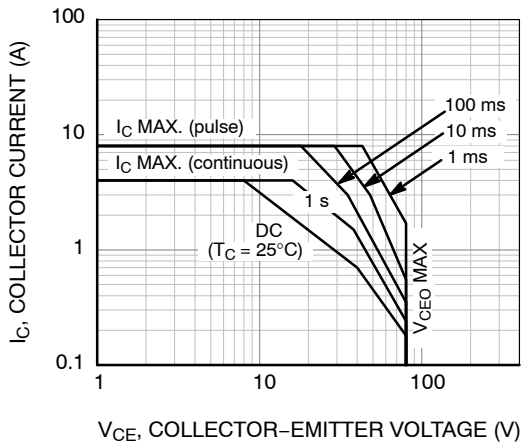


Figure 5. Safe Operating Area

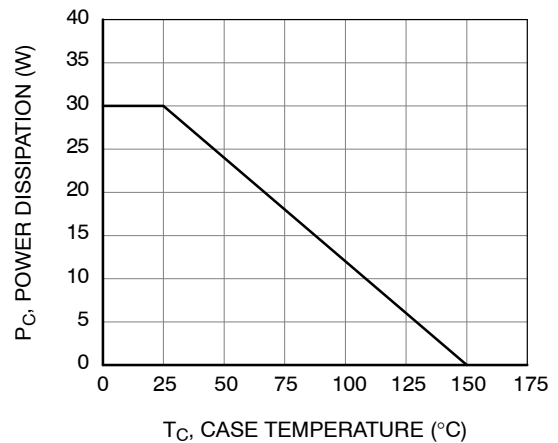
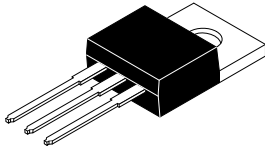


Figure 6. Power Derating

# MECHANICAL CASE OUTLINE

## PACKAGE DIMENSIONS

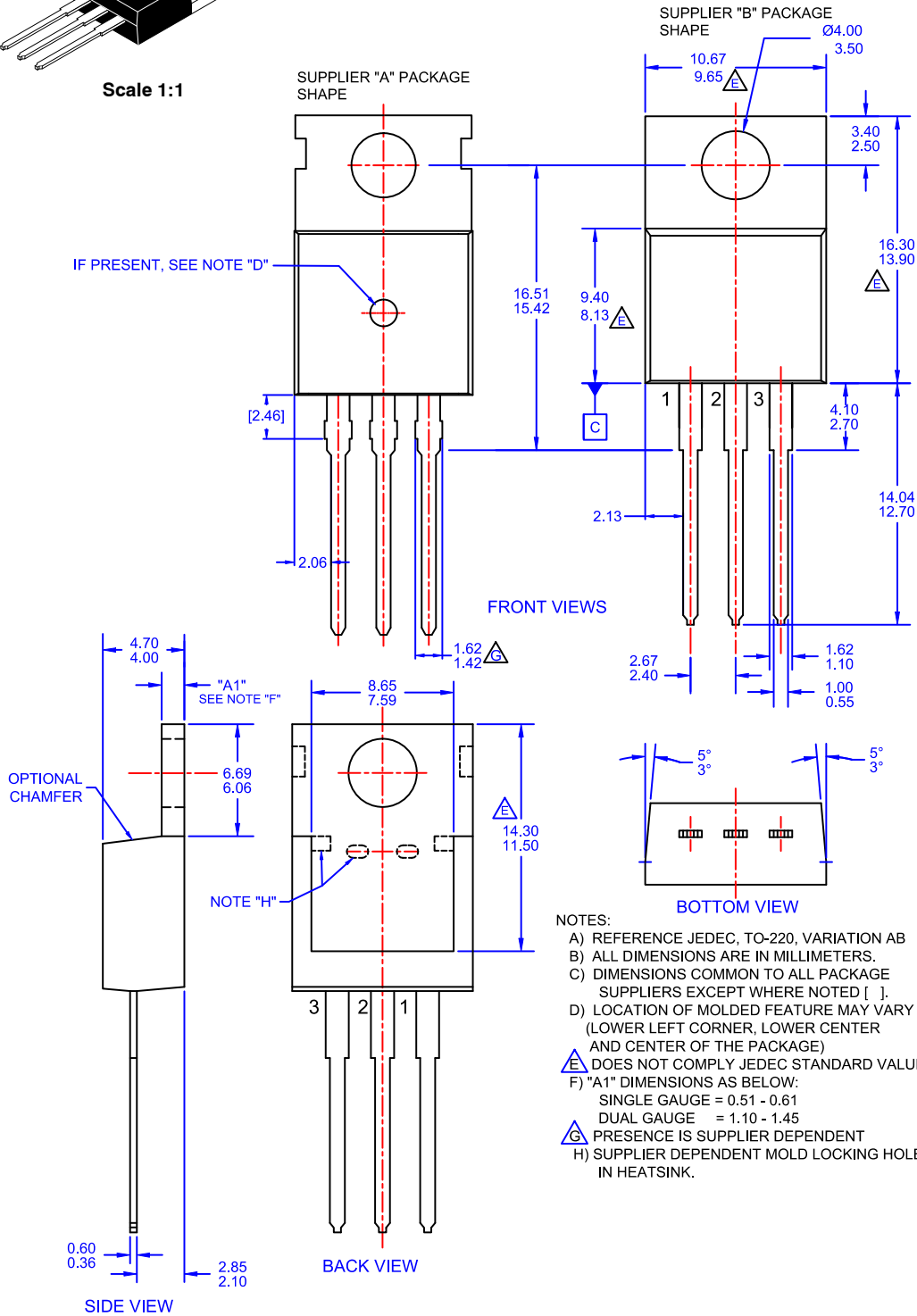
ON Semiconductor®



Scale 1:1

### TO-220-3LD CASE 340AT ISSUE A

DATE 03 OCT 2017



- NOTES:
- A) REFERENCE JEDEC, TO-220, VARIATION AB
  - B) ALL DIMENSIONS ARE IN MILLIMETERS.
  - C) DIMENSIONS COMMON TO ALL PACKAGE SUPPLIERS EXCEPT WHERE NOTED [ ].
  - D) LOCATION OF MOLDED FEATURE MAY VARY (LOWER LEFT CORNER, LOWER CENTER AND CENTER OF THE PACKAGE)
  - E) DOES NOT COMPLY JEDEC STANDARD VALUE.
  - F) "A1" DIMENSIONS AS BELOW:  
 SINGLE GAUGE = 0.51 - 0.61  
 DUAL GAUGE = 1.10 - 1.45
  - G) PRESENCE IS SUPPLIER DEPENDENT
  - H) SUPPLIER DEPENDENT MOLD LOCKING HOLES IN HEATSINK.

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