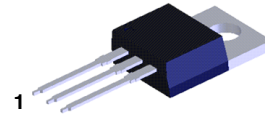


# NPN Epitaxial Silicon Transistor

## KSC2073



TO-220-3LD  
CASE 340AT

### Features

- TV Vertical Deflection Output
- Complement to KSA940
- Collector-Base Voltage :  $V_{CBO} = 150\text{ V}$
- These Devices are Pb-Free and Halide Free

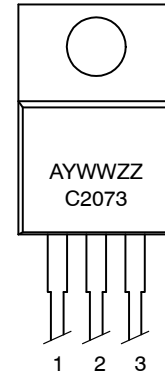
### ABSOLUTE MAXIMUM RATINGS

( $T_A = 25^\circ\text{C}$  unless otherwise noted.)

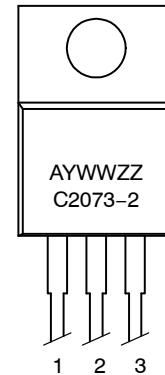
Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	150	V
$V_{CEO}$	Collector-Emitter Voltage	150	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	1.5	A
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	25	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-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.

### MARKING DIAGRAMS



1: Base  
2: Collector  
3: Emitter



1: Base  
2: Collector  
3: Emitter

A = Assembly Plant Code  
YWW = 3-Digit Date Code  
(Year and Week)  
ZZ = 2-Digit Lot Code  
C2073, C2073-2 = Specific Device Code

### ORDERING INFORMATION

See detailed ordering, marking and shipping information on page 2 of this data sheet.

NOTE: Some of the devices on this data sheet have been **DISCONTINUED**. Please refer to the table on page 2.

# KSC2073

## ELECTRICAL CHARACTERISTICS

( $T_A = 25^\circ\text{C}$  unless otherwise noted.)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = 500 \mu\text{A}, I_E = 0$	150	-	-	V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 10 \text{ mA}, I_B = 0$	150	-	-	V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = 500 \mu\text{A}, I_C = 0$	5	-	-	V
$I_{CBO}$	Collector Cut-Off Current	$V_{CB} = 120 \text{ V}, I_E = 0$	-	-	10	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$V_{CE} = 10 \text{ V}, I_C = 0.5 \text{ A}$	40	75	140	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$	-	-	1	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = 10 \text{ V}, I_C = 0.5 \text{ A}$	-	4	-	MHz
$C_{ob}$	Output Capacitance	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$	-	50	-	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	H1	H2
$h_{FE}$	40 ~ 80	60 ~ 125

## ORDERING INFORMATION

Device	Package	Marking	Shipping
KSC2073TU	TO-220-3LD (Pb-Free)	C2073	1000 Units / Tube

## DISCONTINUED (Note 1)

KSC2073H2TU	TO-220-3LD (Pb-Free)	C2073-2	1000 Units / Tube
-------------	----------------------	---------	-------------------

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](http://www.onsemi.com).

TYPICAL PERFORMANCE CHARACTERISTICS

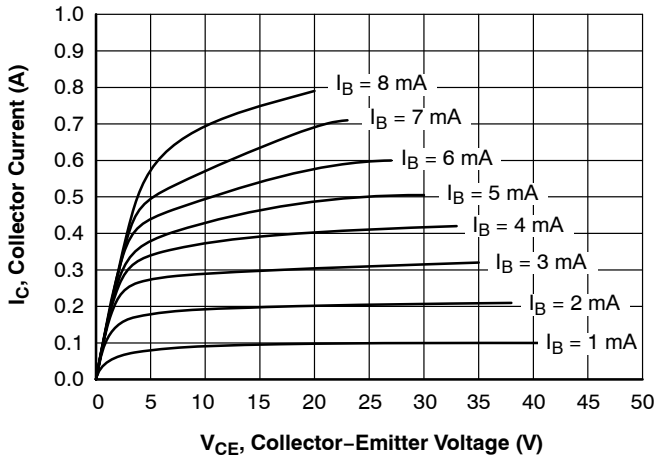


Figure 1. Static Characteristic

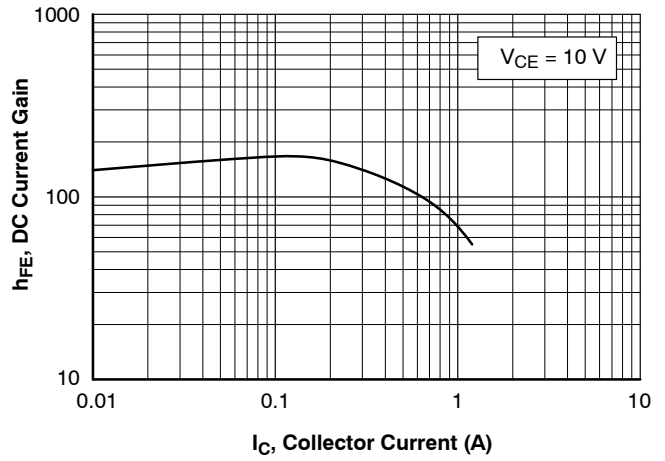


Figure 2. DC Current Gain

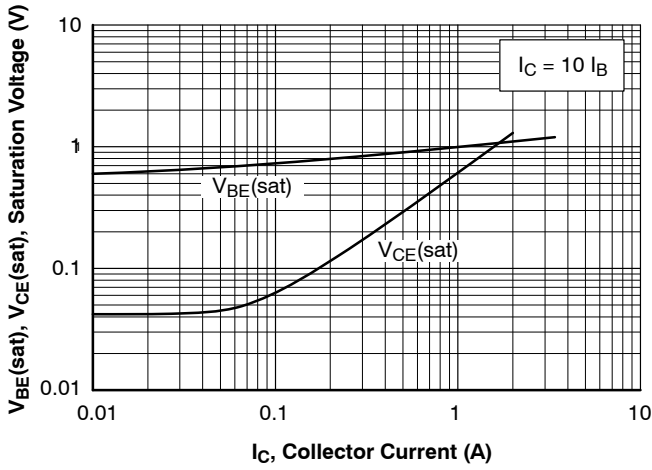


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

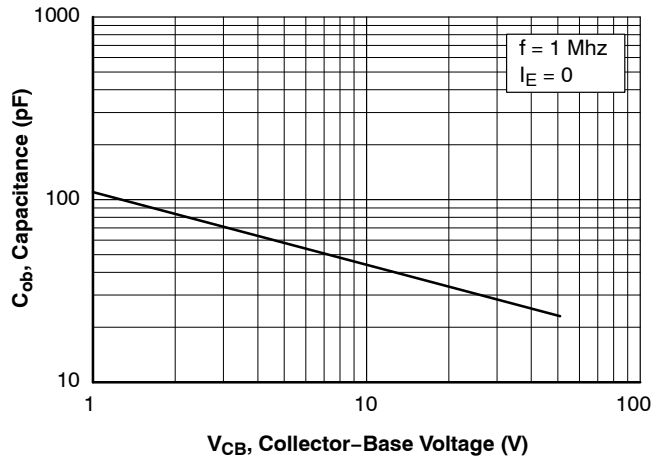


Figure 4. Collector-Emitter On Voltage

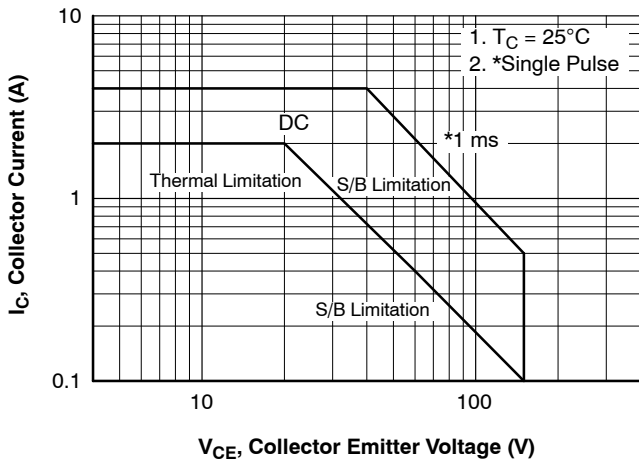


Figure 5. Safe Operating Area

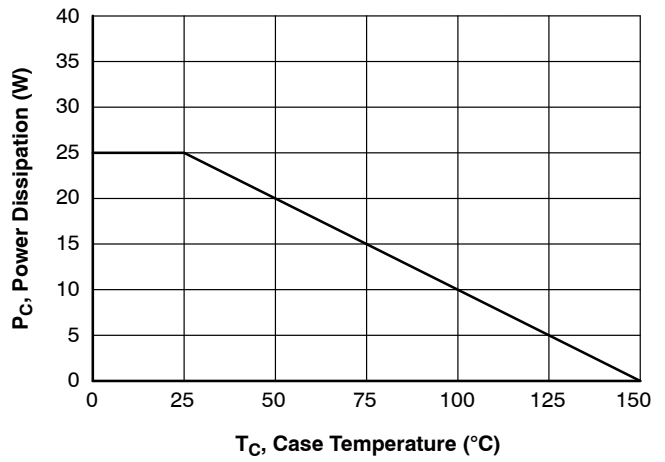
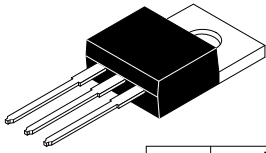


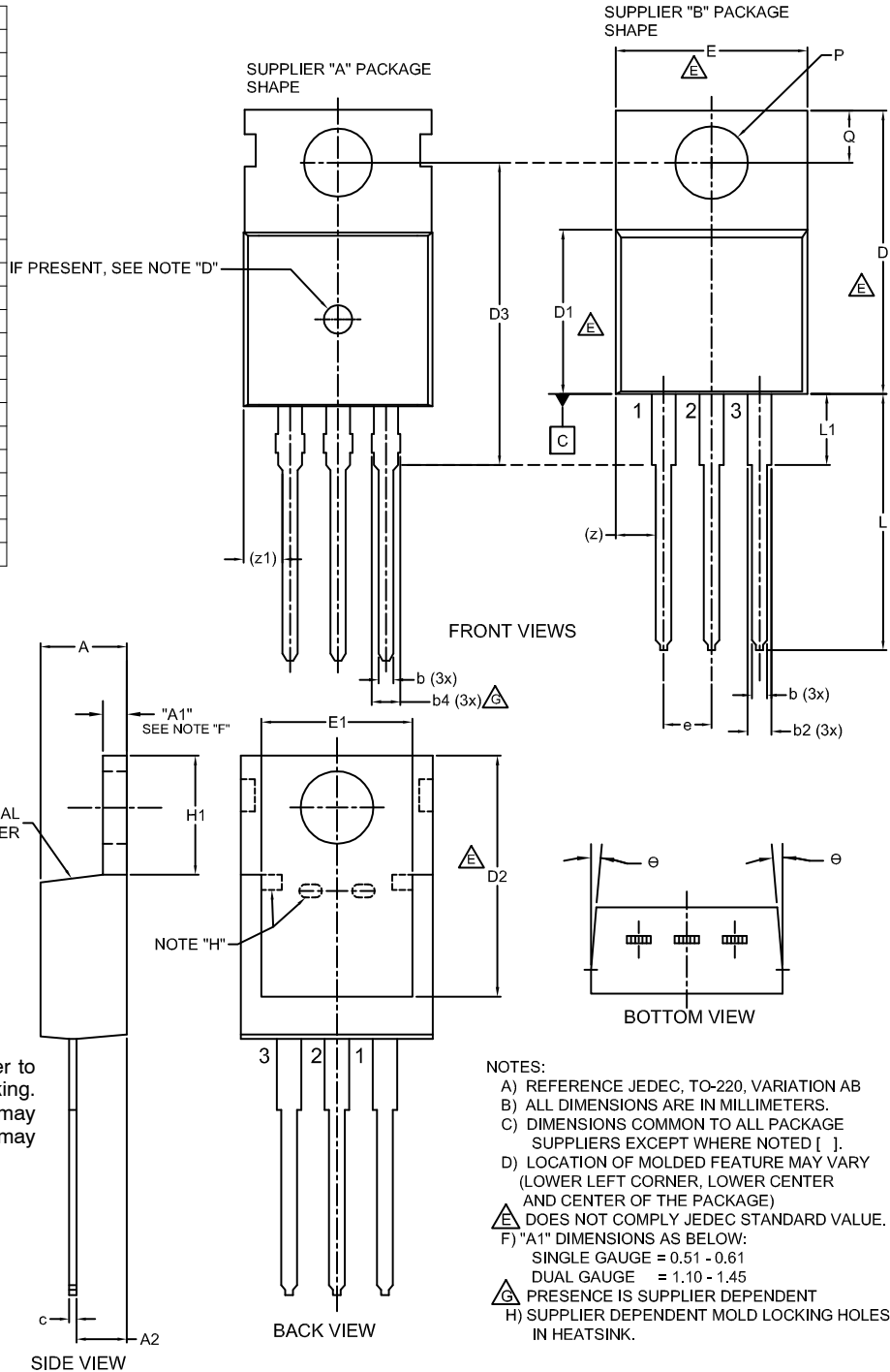
Figure 6. Power Derating



TO-220-3LD  
CASE 340AT  
ISSUE B

DATE 08 AUG 2022

DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	4.00	--	4.70
A1	SEE NOTE "F"		
A2	2.10	--	2.85
b	0.55	--	1.00
b2	1.10	--	1.62
b4	1.42	--	1.62
c	0.36	--	0.60
D	13.90	--	16.30
D1	8.13	--	9.40
D2	11.50	--	14.30
D3	15.42	--	16.51
E	9.65	--	10.67
E1	7.59	--	8.65
e	2.40	--	2.67
H1	6.06	--	6.69
L	12.70	--	14.04
L1	2.70	--	4.10
P	3.50	--	4.00
Q	2.50	--	3.40
z	2.13 REF		
z1	2.06 REF		
θ	3°	--	5°



GENERIC MARKING DIAGRAM\*



XXXX = Specific Device Code  
 A = Assembly Location  
 Y = Year  
 WW = Work Week  
 ZZ = Assembly Lot Code

\*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "•", may or may not be present. Some products may not follow the Generic Marking.

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
- H) SUPPLIER DEPENDENT MOLD LOCKING HOLES IN HEATSINK.

DOCUMENT NUMBER:	98AON13818G	Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red.
DESCRIPTION:	TO-220-3LD	PAGE 1 OF 1

onsemi and onsemi are trademarks of Semiconductor Components Industries, LLC dba onsemi or its subsidiaries in the United States and/or other countries. onsemi reserves the right to make changes without further notice to any products herein. onsemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does onsemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. onsemi does not convey any license under its patent rights nor the rights of others.

**onsemi**, **Onsemi**, and other names, marks, and brands are registered and/or common law trademarks of Semiconductor Components Industries, LLC dba "**onsemi**" or its affiliates and/or subsidiaries in the United States and/or other countries. **onsemi** owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of **onsemi**'s product/patent coverage may be accessed at [www.onsemi.com/site/pdf/Patent-Marking.pdf](http://www.onsemi.com/site/pdf/Patent-Marking.pdf). **onsemi** reserves the right to make changes at any time to any products or information herein, without notice. The information herein is provided "as-is" and **onsemi** makes no warranty, representation or guarantee regarding the accuracy of the information, product features, availability, functionality, or suitability of its products for any particular purpose, nor does **onsemi** assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using **onsemi** products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by **onsemi**. "Typical" parameters which may be provided in **onsemi** data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. **onsemi** does not convey any license under any of its intellectual property rights nor the rights of others. **onsemi** products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use **onsemi** products for any such unintended or unauthorized application, Buyer shall indemnify and hold **onsemi** and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that **onsemi** was negligent regarding the design or manufacture of the part. **onsemi** is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

---

## ADDITIONAL INFORMATION

### TECHNICAL PUBLICATIONS:

Technical Library: [www.onsemi.com/design/resources/technical-documentation](http://www.onsemi.com/design/resources/technical-documentation)  
onsemi Website: [www.onsemi.com](http://www.onsemi.com)

### ONLINE SUPPORT: [www.onsemi.com/support](http://www.onsemi.com/support)

For additional information, please contact your local Sales Representative at [www.onsemi.com/support/sales](http://www.onsemi.com/support/sales)