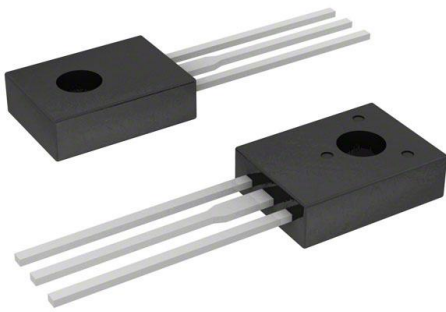


KSD1691YS Datasheet

www.digi-electronics.com



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

DiGi Electronics Part Number	KSD1691YS-DG
Manufacturer	onsemi
Manufacturer Product Number	KSD1691YS
Description	TRANS NPN 60V 5A TO126-3
Detailed Description	Bipolar (BJT) Transistor NPN 60 V 5 A 1.3 W Through Hole TO-126-3



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:

KSD1691YS

Series:

-

Transistor Type:

NPN

Voltage - Collector Emitter Breakdown (Max):

60 V

Current - Collector Cutoff (Max):

10 μ A (ICBO)

Power - Max:

1.3 W

Operating Temperature:

150°C (TJ)

Package / Case:

TO-225AA, TO-126-3

Base Product Number:

KSD1691

Manufacturer:

onsemi

Product Status:

Active

Current - Collector (Ic) (Max):

5 A

Vce Saturation (Max) @ Ib, Ic:

300mV @ 200mA, 2A

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

160 @ 2A, 1V

Frequency - Transition:

-

Mounting Type:

Through Hole

Supplier Device Package:

TO-126-3

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.29.0095

Moisture Sensitivity Level (MSL):

Not Applicable

ECCN:

EAR99



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Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

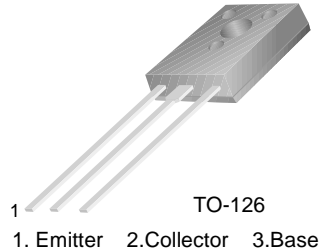
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KSD1691

Feature

- Low Collector-Emitter Saturation Voltage & Large Collector Current
- High Power Dissipation: $P_C = 1.3W$ ($T_a=25^\circ C$)
- Complementary to KSB1151



NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_C=25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current (DC)	5	A
I_{CP}	*Collector Current (Pulse)	8	A
I_B	Base Current (DC)	1	A
P_C	Collector Dissipation ($T_a=25^\circ C$)	1.3	W
P_C	Collector Dissipation ($T_C=25^\circ C$)	20	W
T_J	Junction Temperature	150	$^\circ C$
T_{STG}	Storage Temperature	- 55 ~ 150	$^\circ C$

* $PW \leq 10ms$, duty Cycle $\leq 50\%$

Electrical Characteristics $T_C=25^\circ C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CBO}	Collector Cut-off Current	$V_{CB} = 50V, I_E = 0$			10	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 7V, I_C = 0$			10	μA
h_{FE1} h_{FE2} h_{FE3}	*DC Current Gain	$V_{CE} = 1V, I_C = 0.1A$ $V_{CE} = 1V, I_C = 2A$ $V_{CE} = 1V, I_C = 5A$	60 100 50		400	
$V_{CE(sat)}$	*Collector-Emitter Saturation Voltage	$I_C = 2A, I_B = 0.2A$		0.1	0.3	V
$V_{BE(sat)}$	*Base-Emitter Saturation Voltage	$I_C = 2A, I_B = 0.2A$		0.9	1.2	V
t_{ON}	Turn ON Time	$V_{CC} = 10V, I_C = 2A$ $I_{B1} = - I_{B2} = 0.2A$ $R_L = 5\Omega$		0.2	1	μs
t_{STG}	Storage Time			1.1	2.5	μs
t_F	Fall Time			0.2	1	μs

* Pulse test: $PW \leq 50\mu s$, duty Cycle $\leq 2\%$ Pulsed

h_{FE} Classification

Classification	O	Y	G
$h_{FE 2}$	100 ~ 200	160 ~ 320	200 ~ 400

Typical Characteristics

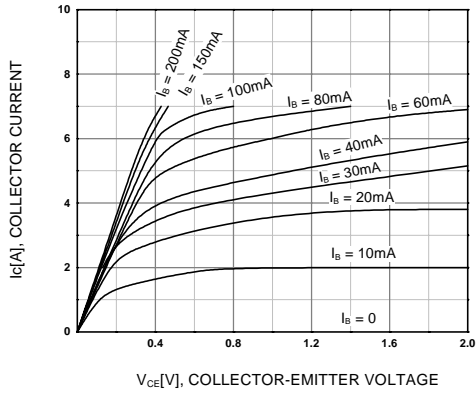


Figure 1. Static Characteristic

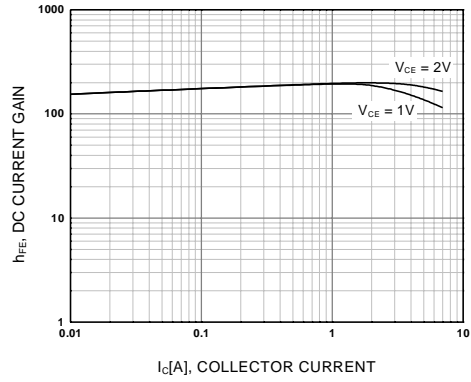


Figure 2. DC current Gain

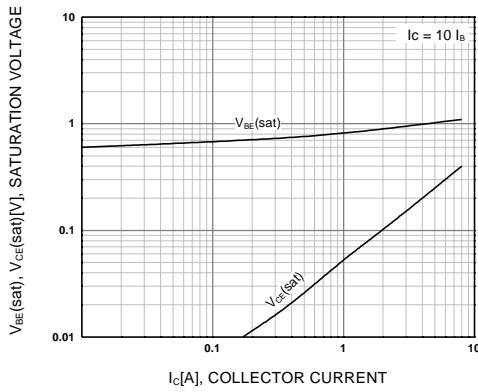


Figure 3. Collector-Emitter Saturation Voltage
Base-Emitter Saturation Voltage

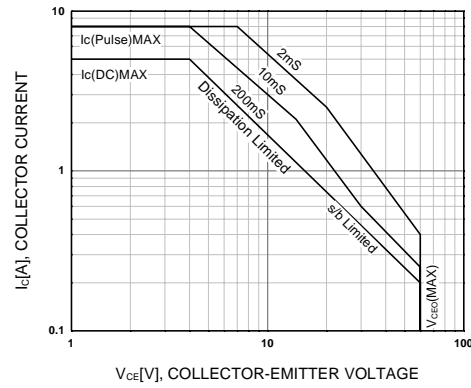


Figure 4. Forward Bias Safe Operating Area

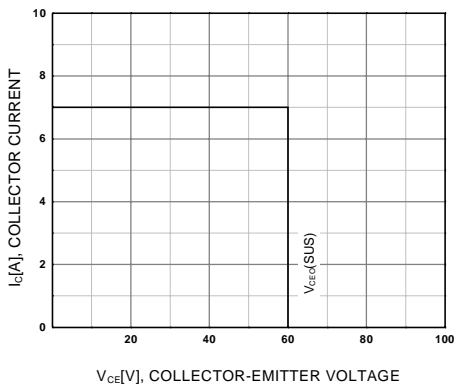


Figure 5. Reverse Bias Safe Operating Area

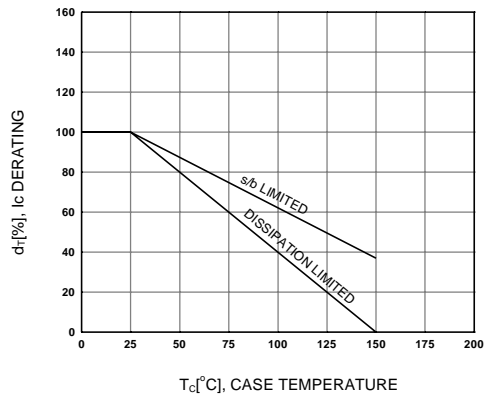


Figure 6. Derating Curve of Safe Operating Areas

Typical Characteristics (Continued)

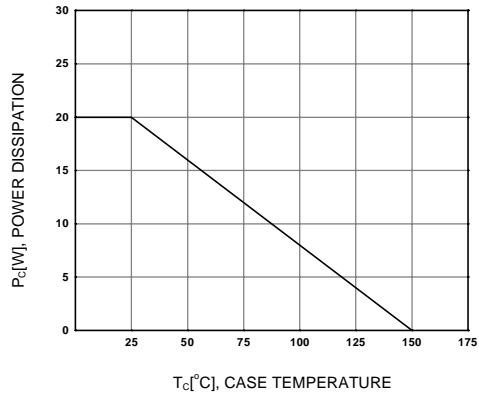
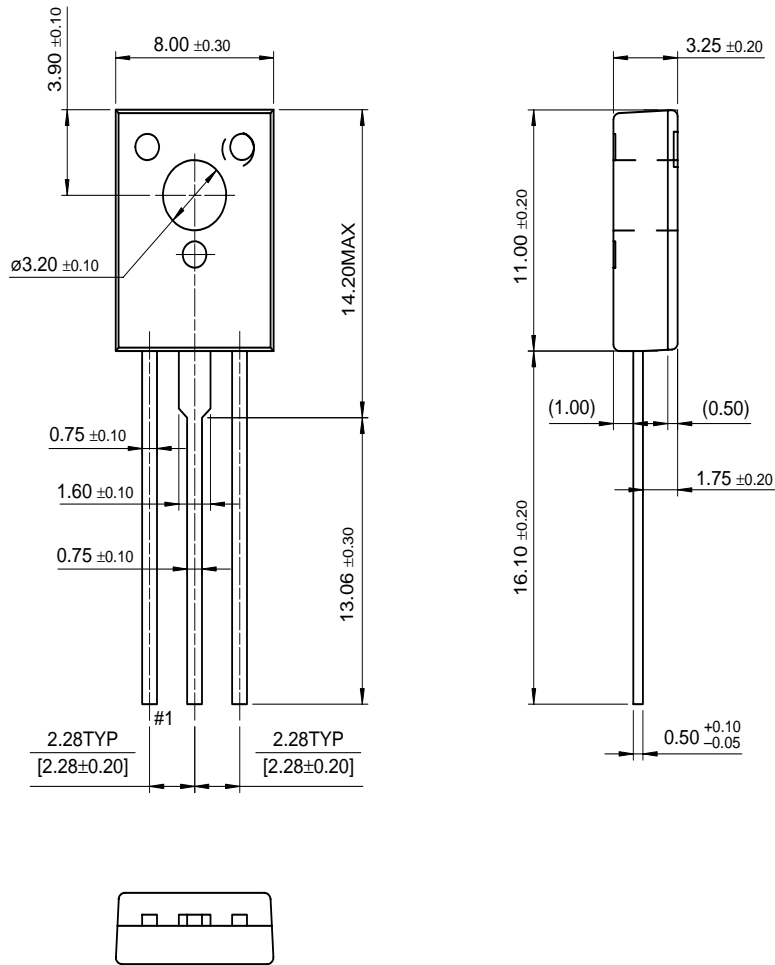


Figure 7. Power Derating

Package Demensions

TO-126



Dimensions in Millimeters

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