KSD1691YS Datasheet

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

https://www.DiGi-Electronics.com

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
KSD1691YS	onsemi
Series:	Product Status:
-	Active
Transistor Type:	Current - Collector (Ic) (Max):
NPN	5 A
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
60 V	300mV @ 200mA, 2A
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
10µA (ICBO)	160 @ 2A, 1V
Power - Max:	Frequency - Transition:
1.3 W	-
Operating Temperature:	Mounting Type:
150°C (TJ)	Through Hole
Package / Case:	Supplier Device Package:
TO-225AA, TO-126-3	TO-126-3
Base Product Number:	
KSD1691	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	Not Applicable
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.29.0095	

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ON Semiconductor®

To learn more about ON Semiconductor, please visit our website at
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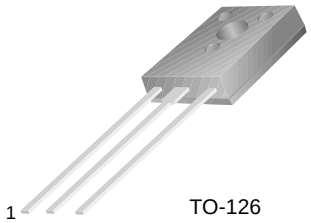
Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes 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.

FAIRCHILD SEMICONDUCTOR™

KSD1691

Feature

- Low Collector-Emtter Saturation Voltage & Large Collector Current
- High Power Dissipation: P_C = 1.3W (T_a=25°C)
- Complementary to KSB1151



TO-126

1. Emitter 2.Collector 3.Base

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°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°C)	1.3	W
P_C	Collector Dissipation (T_C=25°C)	20	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 ~ 150	°C

* PW≤10ms, duty Cycle≤50%

Electrical Characteristics T_C=25°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 = 5Ω		0.2	1	μs
t_{STG}	Storage Time			1.1	2.5	μs
t_F	Fall Time			0.2	1	μs

* Pulse test: PW≤50μs, duty Cycle≤2% Pulsed

h_{FE} Classificntion

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

Typical Characteristics

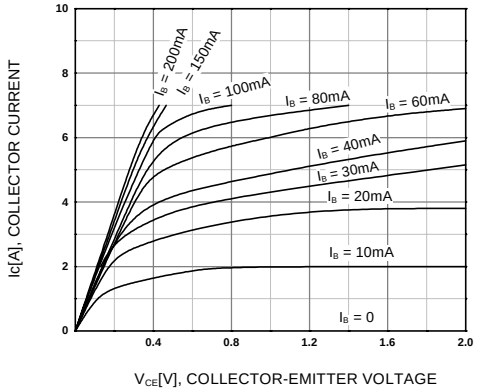


Figure 1. Static Characteristic

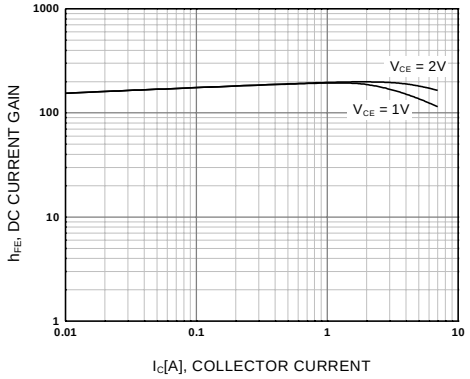


Figure 2. DC current Gain

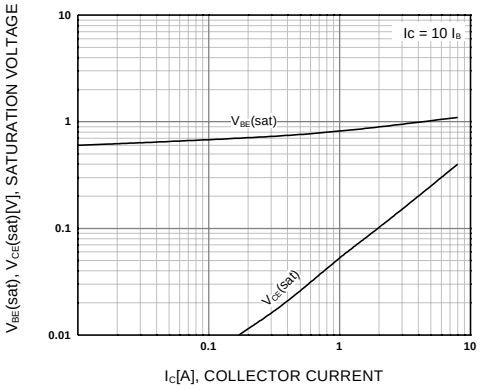


Figure 3. Collector-Emitter Saturation Voltage Base-Emitter Saturation Voltage

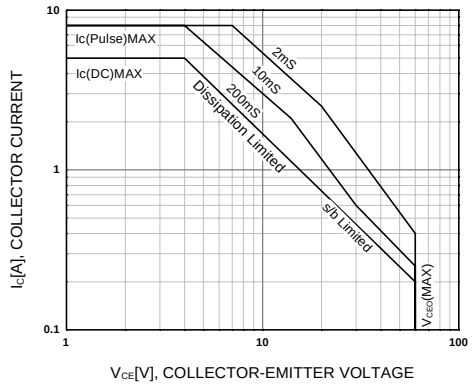


Figure 4. Forward Bias Safe Operating Area

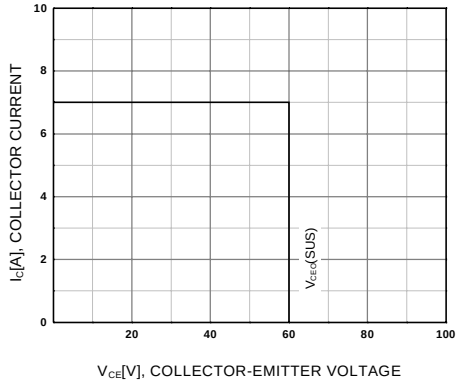


Figure 5. Reverse Bias Safe Operating Area

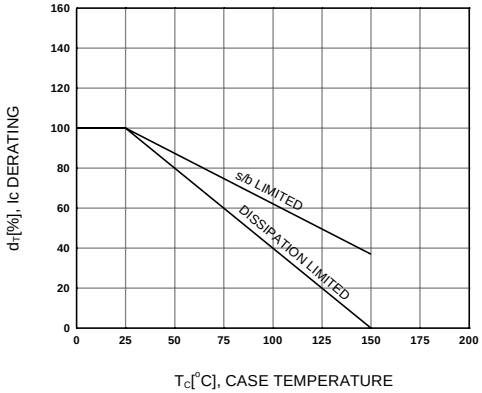


Figure 6. Derating Curve of Safe Operating Areas

Typical Characteristics (Continued)

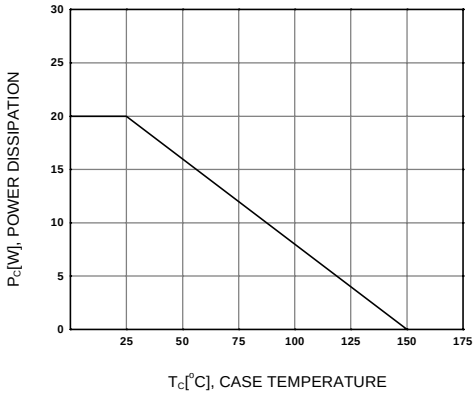
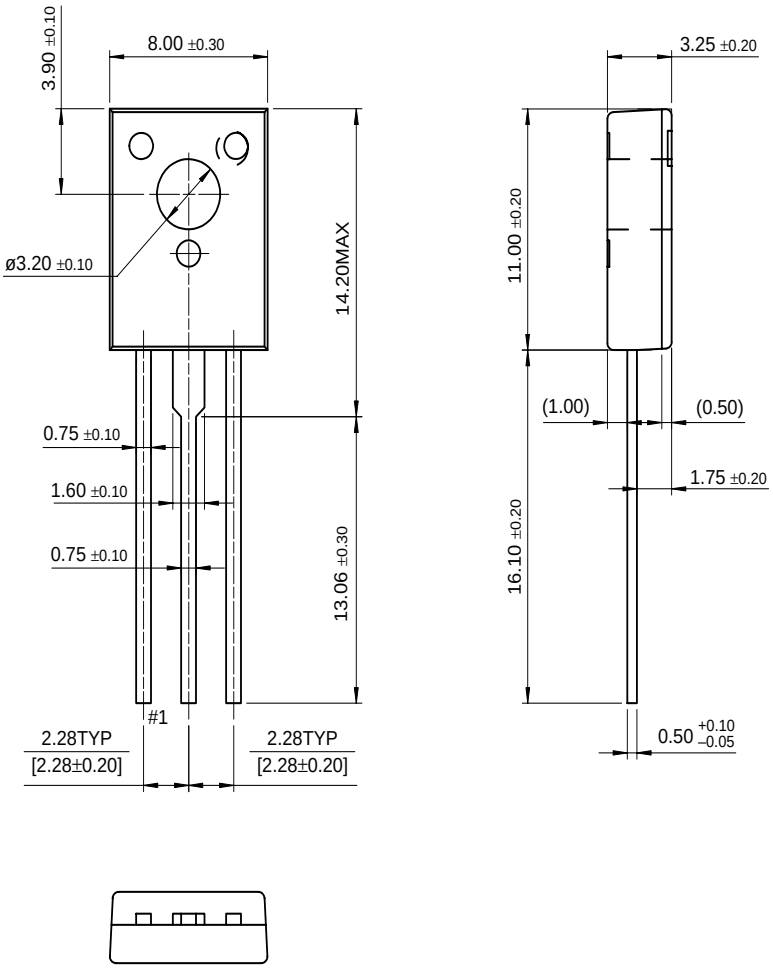


Figure 7. Power Derating

Package Demensions

TO-126



Dimensions in Millimeters

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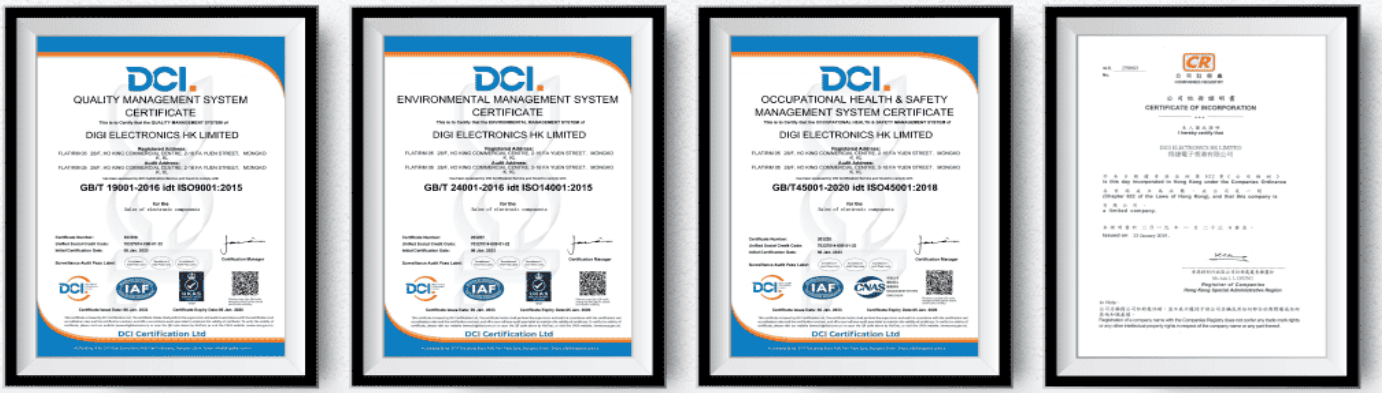

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