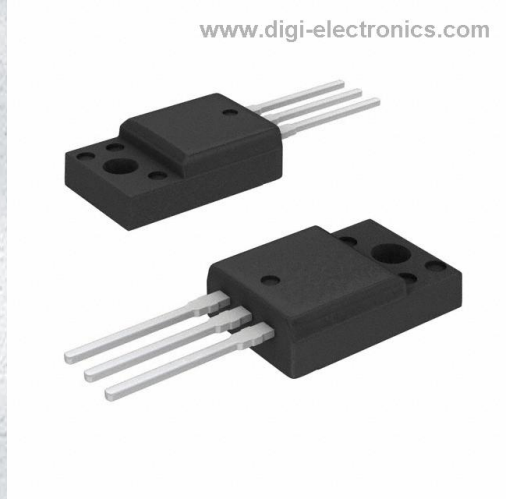
KSD1406GTU Datasheet



DiGi Electronics Part Number	KSD1406GTU-DG
Manufacturer	onsemi
Manufacturer Product Number	KSD1406GTU
Description	TRANS NPN 60V 3A TO220F-3
Detailed Description	Bipolar (BJT) Transistor NPN 60 V 3 A 3MHz 25 W Through Hole TO-220F-3

https://www.DiGi-Electronics.com

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Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
KSD1406GTU	onsemi
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
NPN	3 A
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
60 V	1V @ 300mA, 3A
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
100µA (ICBO)	150 @ 500mA, 5V
Power - Max:	Frequency - Transition:
25 W	3MHz
Operating Temperature:	Mounting Type:
150°C (TJ)	Through Hole
Package / Case:	Supplier Device Package:
TO-220-3 Full Pack	TO-220F-3
Base Product Number:	
KSD1406	

Environmental & Export classification

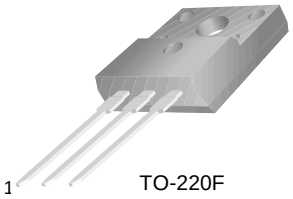
Moisture Sensitivity Level (MSL):	REACH Status:
1 (Unlimited)	REACH Unaffected
ECCN:	HTSUS:
EAR99	8541.29.0095

FAIRCHILD SEMICONDUCTOR™

KSD1406

Low Frequency Power Amplifier

- Low Collector-Emitter Saturation Voltage
- Complement to KSB1015



1 TO-220F

1.Base 2.Collector 3.Emitter

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	3	A
I_B	Base Current	0.5	A
P_C	Collector Dissipation (T_C=25°C)	25	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 50mA, I_B = 0	60			V
I_{CBO}	Collector Cut-off Current	V_{CB} = 60V, I_E = 0			100	µA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 7V, I_C = 0			100	µA
h_{FE1} h_{FE2}	DC Current Gain	V_{CE} = 5V, I_C = 0.5A V_{CE} = 5V, I_C = 3A	60 20		300	
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 3A, I_B = 0.3A		0.4	1	V
V_{BE}(on)	Base-Emitter ON Voltage	V_{CE} = 5V, I_C = 0.5A		0.7	1	V
f_T	Current Gain Bandwidth Product	V_{CE} = 5V, I_C = 0.5A		3		MHz
C_{ob}	Output Capacitance	V_{CB} = 10V, f = 1MHz		70		pF
t_{ON}	Turn ON Time	V_{CC} = 30V, I_C = 1A I_{B1} = -I_{B2} = 0.2A R_L = 30Ω		0.8		µs
t_{STG}	Storage Time			1.5		µs
t_F	Fall Time			0.8		µs

h_{FE1} Classification

Classification	O	Y	G
h_{FE1}	60 ~ 120	100 ~ 200	150 ~ 300

Typical Characteristics

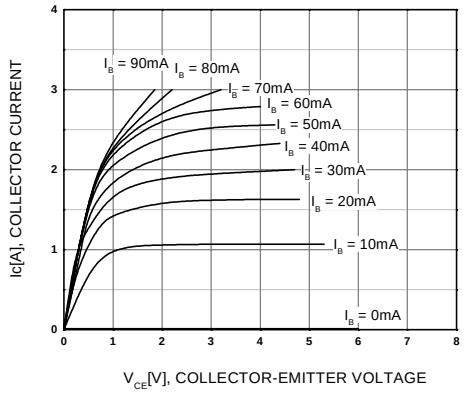


Figure 1. Static Characteristic

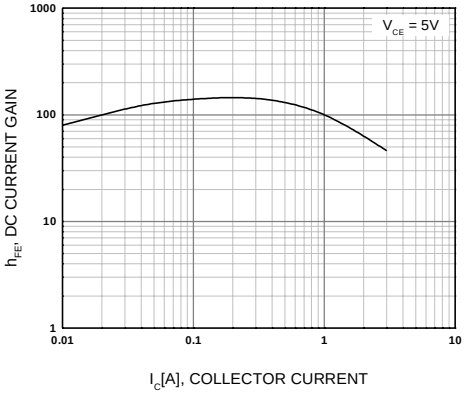


Figure 2. DC current Gain

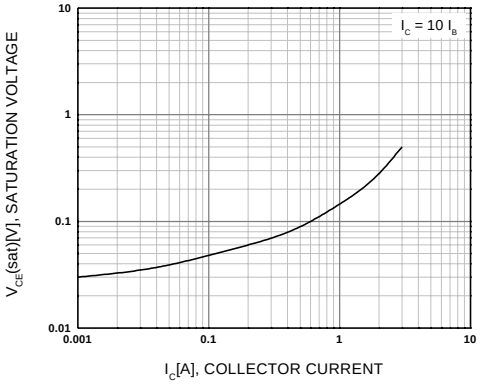


Figure 3. Collector-Emitter Saturation Voltage

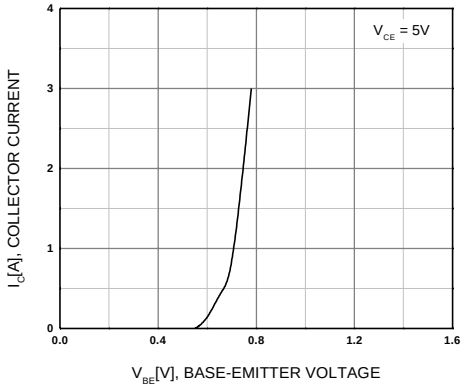


Figure 4. Base-Emitter Voltage

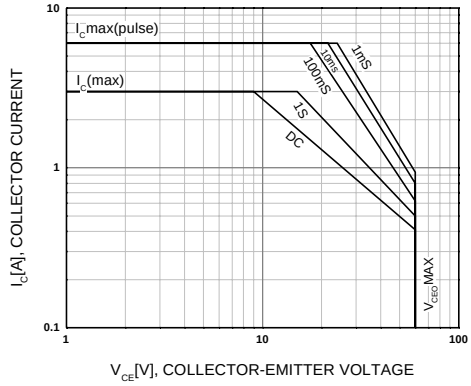


Figure 5. Safe Operating Area

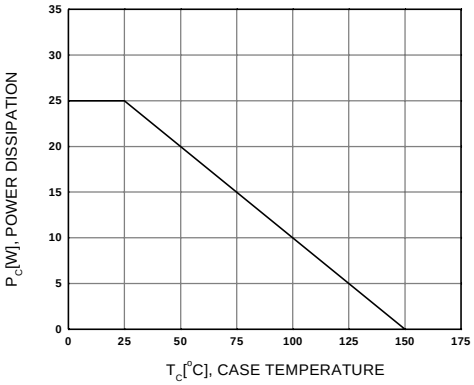
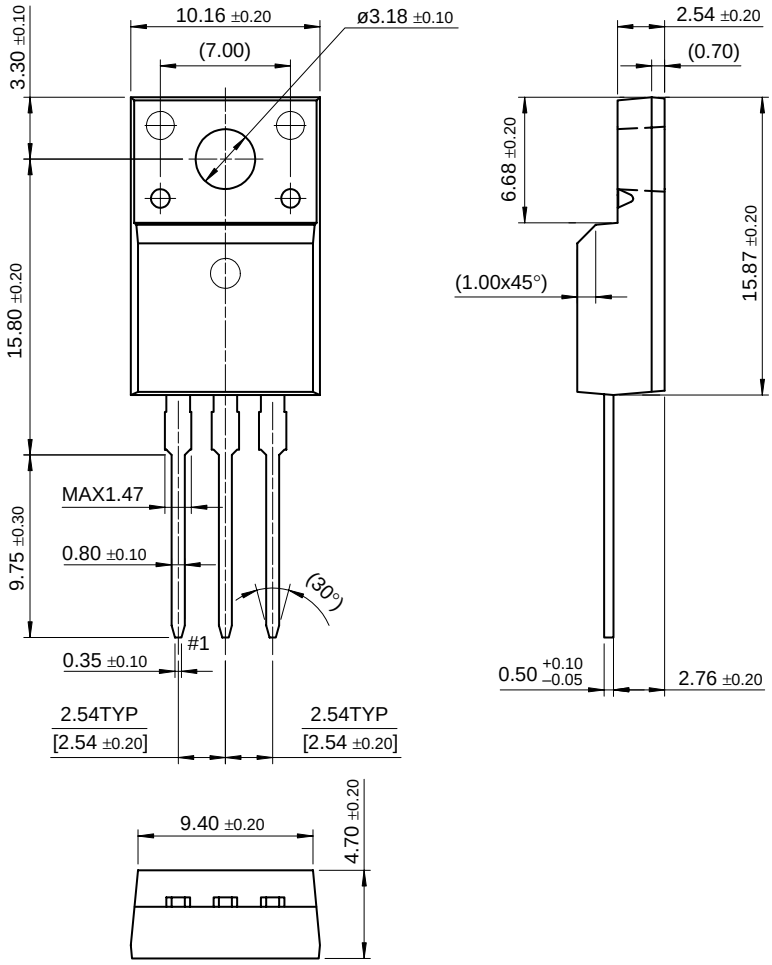


Figure 6. Power Derating

Package Demensions

TO-220F



Dimensions in Millimeters

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

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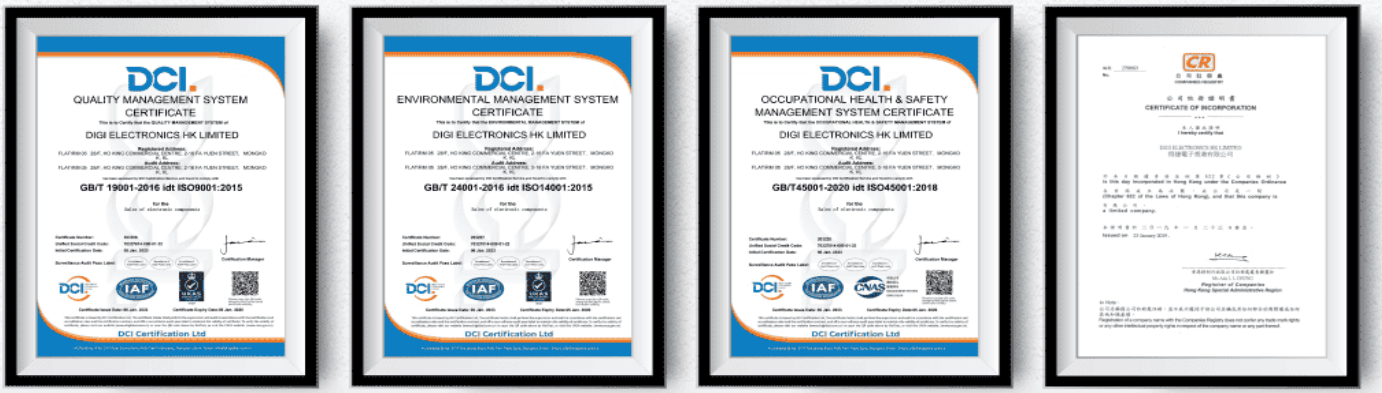

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