

KSD880OPATU Datasheet

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DiGi Electronics Part Number	KSD880OPATU-DG
Manufacturer	onsemi
Manufacturer Product Number	KSD880OPATU
Description	TRANS NPN 60V 3A TO220-3
Detailed Description	Bipolar (BJT) Transistor NPN 60 V 3 A 3MHz 30 W Th rough Hole TO-220-3



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Purchase and inquiry

Manufacturer Product Number:

KSD880OPATU

Series:

-

Transistor Type:

NPN

Voltage - Collector Emitter Breakdown (Max):

60 V

Current - Collector Cutoff (Max):

100 μ A (ICBO)

Power - Max:

30 W

Operating Temperature:

150°C (TJ)

Package / Case:

TO-220-3

Base Product Number:

KSD880

Manufacturer:

onsemi

Product Status:

Obsolete

Current - Collector (Ic) (Max):

3 A

Vce Saturation (Max) @ Ib, Ic:

1V @ 300mA, 3A

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

60 @ 500mA, 5V

Frequency - Transition:

3MHz

Mounting Type:

Through Hole

Supplier Device Package:

TO-220-3

Environmental & Export classification

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

REACH Status:

REACH Unaffected

HTSUS:

8541.29.0095



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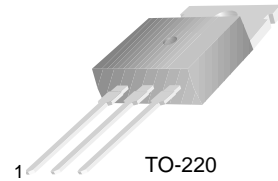
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KSD880

Low Frequency Power Amplifier

- Complement to KSB834



1.Base 2.Collector 3.Emitter

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_C=25^\circ\text{C}$ 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	0.3	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	$^\circ\text{C}$

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

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

h_{FE} Classification

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

Typical Characteristics

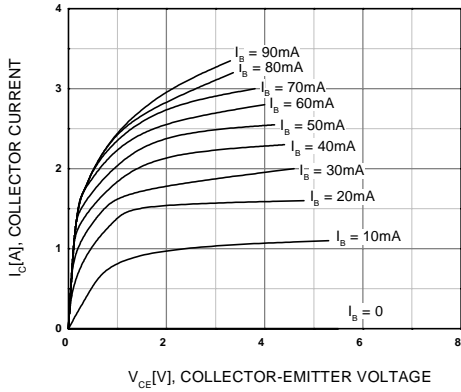


Figure 1. Static Characteristic

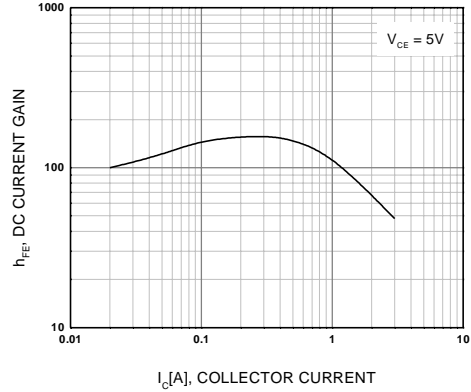


Figure 2. DC current Gain

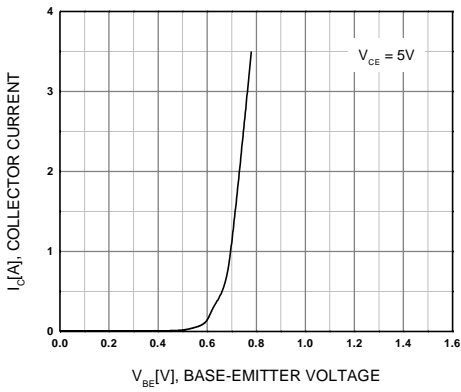


Figure 3. Base-Emitter On Voltage

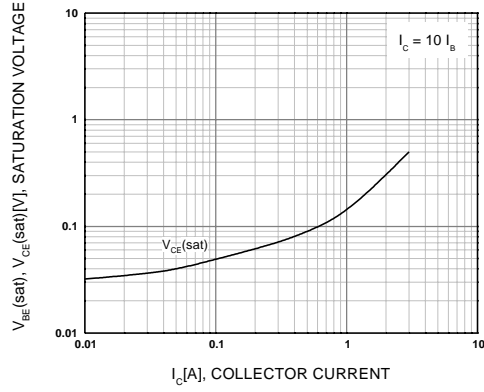


Figure 4. Collector-Emitter Saturation Voltage vs Collector Current

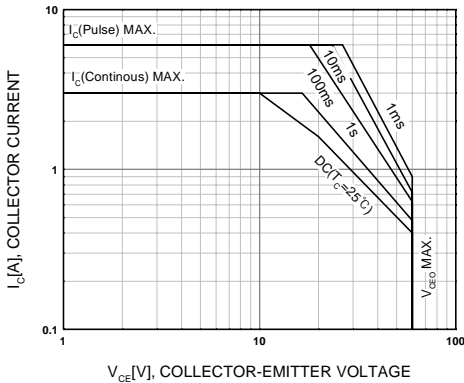


Figure 5. Safe Operating Area

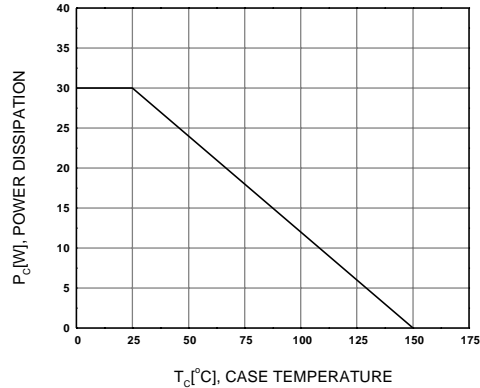
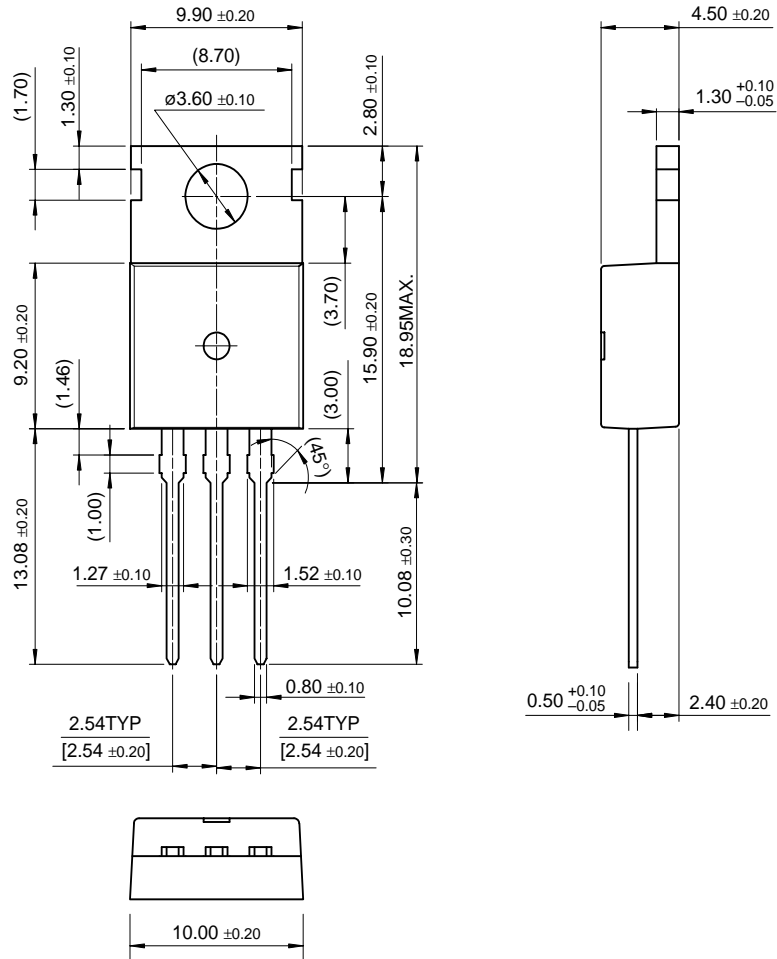


Figure 6. Power Derating

Package Dimensions

TO-220



Dimensions in Millimeters

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