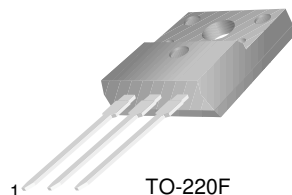


KSD2058

Low Frequency Power Amplifier



TO-220F
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	0.5	A
P_C	Collector Dissipation ($T_a=25^\circ\text{C}$)	1.5	W
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	$^\circ\text{C}$

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	$V_{CB} = 60\text{V}, I_E = 0$			10	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 7\text{V}, I_C = 0$			1	mA
V_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 50\text{mA}, I_B = 0$	60			V
h_{FE}	DC Current Gain	$V_{CE} = 5\text{V}, I_C = 0.5\text{A}$	8			
$V_{CE(\text{Sat})}$	Collector-Emitter Saturation Voltage	$I_C = 2\text{A}, I_B = 0.2\text{A}$			1.5	V
$V_{BE(\text{on})}$	Base-Emitter ON Voltage	$V_{CE} = 5\text{V}, I_C = 0.5\text{A}$		3		V
f_T	Current Gain Bandwidth Product	$V_{CE} = 5\text{V}, I_C = 0.5\text{A}$			0.4	MHz
C_{ob}	Output Capacitance	$V_{CB} = 10\text{V}, f = 1\text{MHz}$		35		pF
t_{ON}	Turn ON Time	$V_{CC} = 30\text{V}, I_C = 2\text{A}$		0.65		μs
t_{STG}	Storage Time	$I_{B1} = - I_{B2} = 0.2\text{A}$		1.3		μs
t_F	Fall Time	$R_L = 15\Omega$		0.65		μs

h_{FE} Classification

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

Typical Characteristics

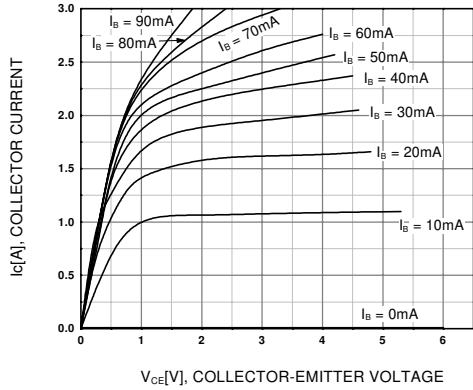


Figure 1. Static Characteristic

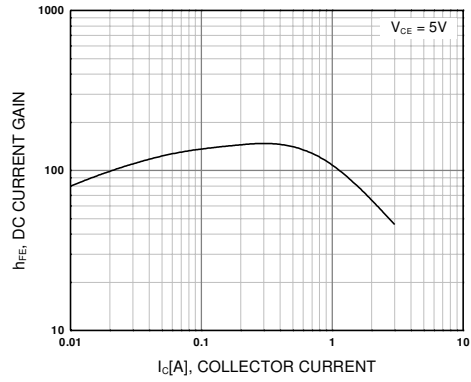


Figure 2. DC current Gain

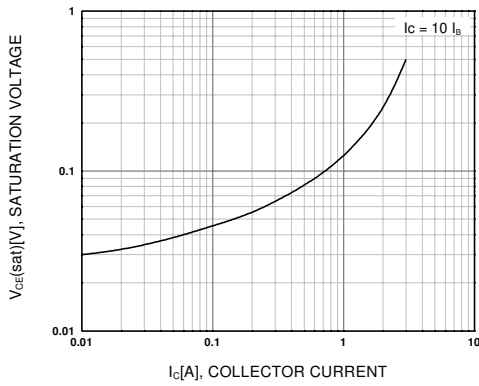


Figure 3. Collector Output Capacitance

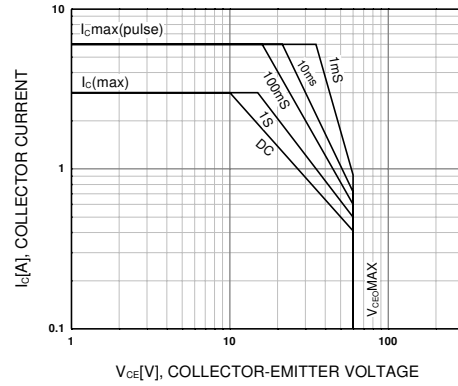


Figure 4. Safe Operating Area

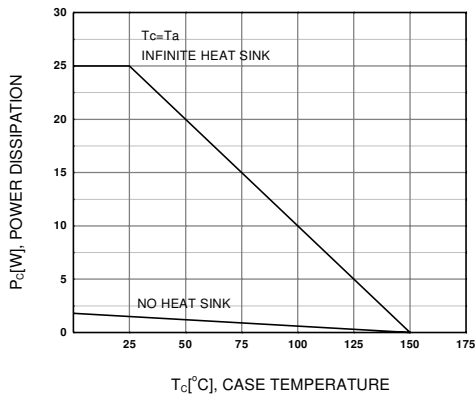
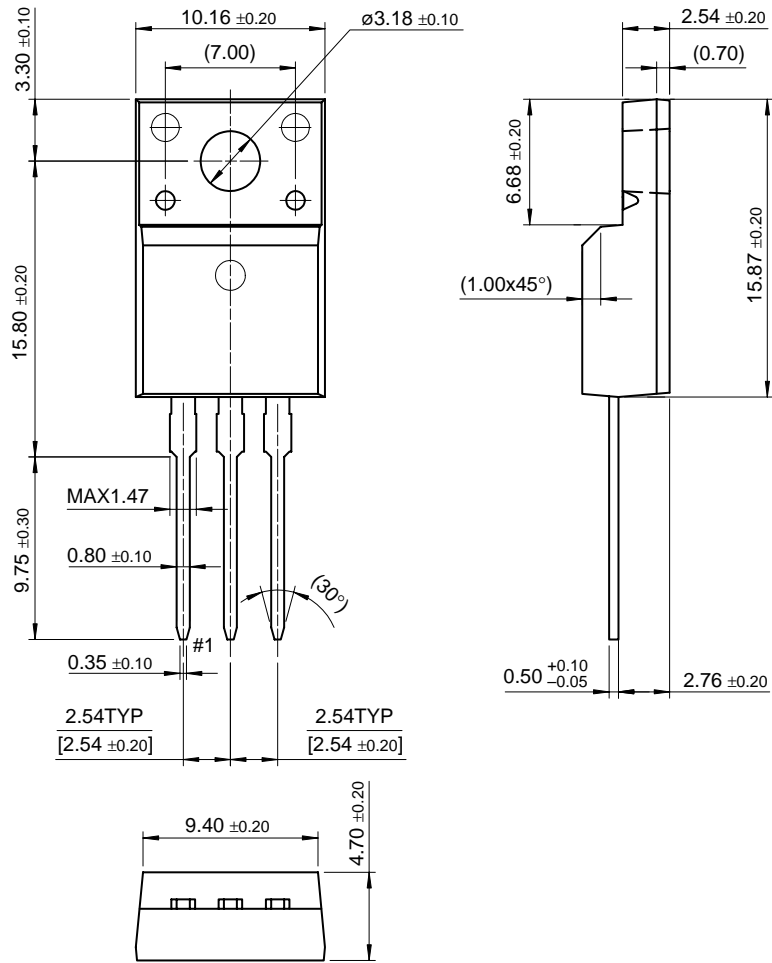


Figure 5. Power Derating

Package Dimensions

KSD2058

TO-220F



Dimensions in Millimeters

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