

KSD2058

Low Frequency Power Amplifier



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	Α
I _B	Base Current	0.5	Α
P _C	Collector Dissipation (T _a =25°C)	1.5	W
P _C	Collector Dissipation (T _C =25°C)	25	W
TJ	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.	Тур.	Max.	Units
I _{CBO}	Collector Cut-off Current	$V_{CB} = 60V, I_{E} = 0$			10	μΑ
I _{EBO}	Emitter Cut-off Current	$V_{EB} = 7V, I_{C} = 0$			1	mA
V _{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 50 \text{mA}, I_B = 0$	60			V
h _{FE}	DC Current Gain	$V_{CE} = 5V, I_{C} = 0.5A$	8			
V _{CE} (Sat)	Collector-Emitter Saturation Voltage	$I_C = 2A, I_B = 0.2A$			1.5	V
V _{BE} (on)	Base-Emitter ON Voltage	$V_{CE} = 5V, I_{C} = 0.5A$		3		V
f _T	Current Gain Bandwidth Product	$V_{CE} = 5V, I_{C} = 0.5A$			0.4	MHz
C _{ob}	Output Capacitance	V _{CB} = 10V, f = 1MHz		35		pF
t _{ON}	Turn ON Time	$V_{CC} = 30V, I_{C} = 2A$		0.65		μs
t _{STG}	Storage Time	$I_{B1} = -I_{B2} = 0.2A$		1.3		μs
t _F	Fall Time	$R_L = 15\Omega$		0.65		μs

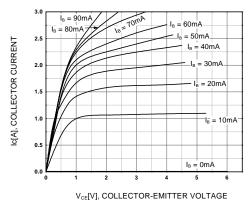
h_{FE} Classification

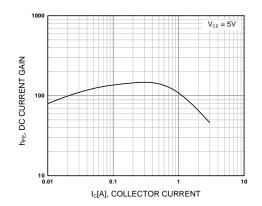
Classification	O Y		G	
h _{FE}	60 ~ 120	100 ~ 200	150 ~ 300	

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Typical Characteristics

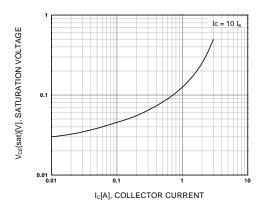




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Figure 1. Static Characteristic

Figure 2. DC current Gain



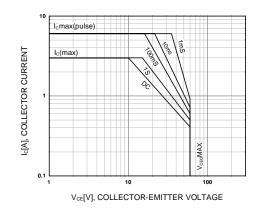


Figure 3. Collector Output Capacitance

Figure 4. Safe Operating Area

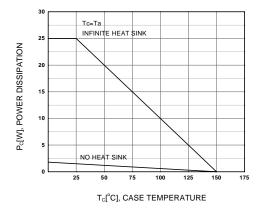


Figure 5. Power Derating

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2.54 ±0.20

Package Demensions

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TO-220F

ø3.18 ±0.10

10.16 ±0.20

3.30 ±0.10 (7.00)(0.70) 6.68 ± 0.20 15.80 ± 0.20 (1.00x45°) MAX1.47 9.75 ±0.30 0.80 ±0.10 0.35 ±0.10 $0.50^{\,+0.10}_{\,-0.05}$ 2.76 ±0.20 2.54TYP 2.54TYP [2.54 ±0.20] [2.54 ±0.20] 4.70 ±0.20 9.40 ± 0.20

Dimensions in Millimeters

Rev. A, February 2000

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