

KSD1406

Low Frequency Power Amplifier

- Low Collector-Emitter Saturation Voltage
- Complement to KSB1015



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 _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.	Тур.	Max.	Units
BV _{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 50 \text{mA}, I_B = 0$	60			V
I _{CBO}	Collector Cut-off Current	$V_{CB} = 60V, I_{E} = 0$			100	μΑ
I _{EBO}	Emitter Cut-off Current	$V_{EB} = 7V, I_{C} = 0$			100	μΑ
h _{FE1}	DC Current Gain	$V_{CE} = 5V, I_{C} = 0.5A$	60		300	
h _{FE2}		$V_{CE} = 5V, I_{C} = 3A$	20			
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	$V_{CC} = 30V, I_{C} = 1A$		0.8		μs
t _{STG}	Storage Time	$I_{B1} = -I_{B2} = 0.2A$		1.5		μs
t _F	Fall Time	$R_L = 30\Omega$		0.8		μs

h_{FE1} Classification

Classification	0	Y	G
h _{FE1}	60 ~ 120	100 ~ 200	150 ~ 300

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Typical Characteristics

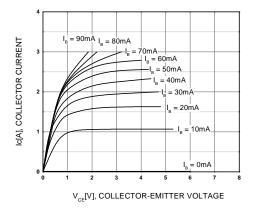


Figure 1. Static Characteristic

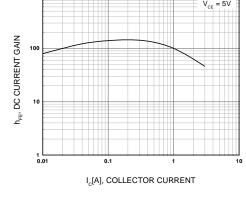


Figure 2. DC current Gain

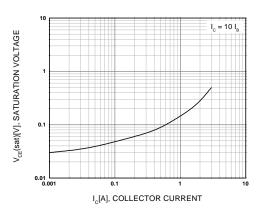


Figure 3. Collector-Emitter Saturation Voltage

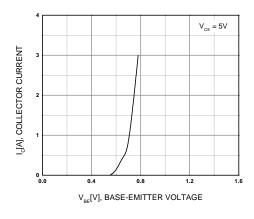


Figure 4. Base-Emitter Voltage

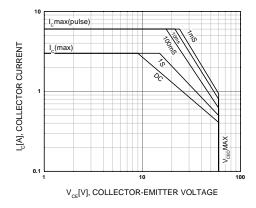


Figure 5. Safe Operating Area

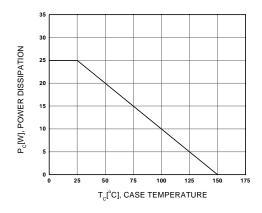
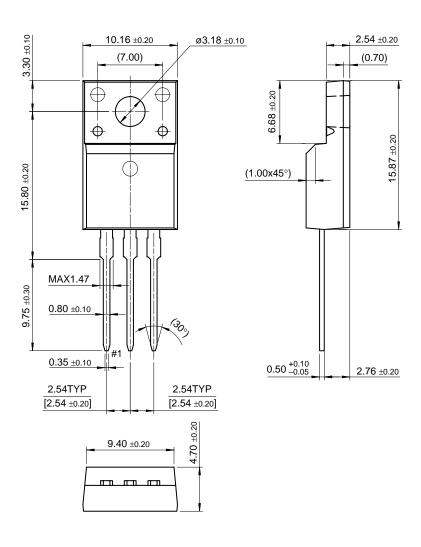


Figure 6. Power Derating

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Package Demensions

TO-220F



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