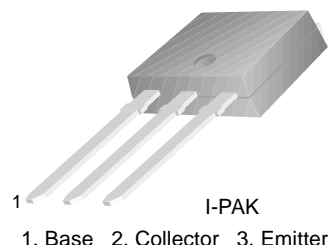


KSD1222

KSD1222

Power Amplifier Applications

- High DC Current Gain
- Low Collector-Emitter Saturation Voltage
- Built in a Damper Diode at E-C
- Darlington TR
- Complement to KSB907



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	40	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	3	A
I_B	Base Current	0.3	A
P_C	Collector Dissipation ($T_C=25^\circ\text{C}$)	15	W
	Collector Dissipation ($T_a=25^\circ\text{C}$)	1	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
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 25\text{mA}$, $I_B = 0$	40			V
I_{CBO}	Collector Cut-off Current	$V_{CB} = 60\text{V}$, $I_E = 0$			20	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 5\text{V}$, $I_C = 0$			2.5	mA
h_{FE1} h_{FE2}	DC Current Gain	$V_{CE} = 2\text{V}$, $I_C = 1\text{A}$ $V_{CE} = 2\text{V}$, $I_C = 3\text{A}$	2000 1000			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 2\text{A}$, $I_B = 4\text{mA}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 2\text{A}$, $I_B = 4\text{mA}$			2	V
t_{ON}	Turn On Time	$V_{CC} = 30\text{V}$, $I_C = 3\text{A}$ $I_{B1} = -I_{B2} = 6\text{mA}$ $R_L = 10\Omega$		0.1		μs
t_{STG}	Storage Time			1		μs
t_F	Fall Time			0.2		μs

Typical Characteristics

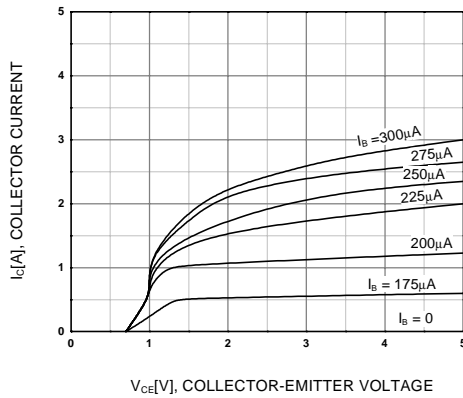


Figure 1. Static Characteristic

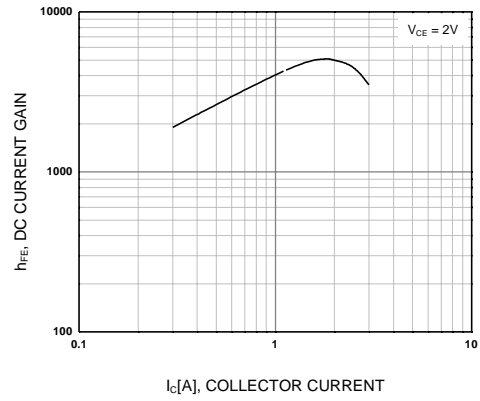


Figure 2. DC current Gain

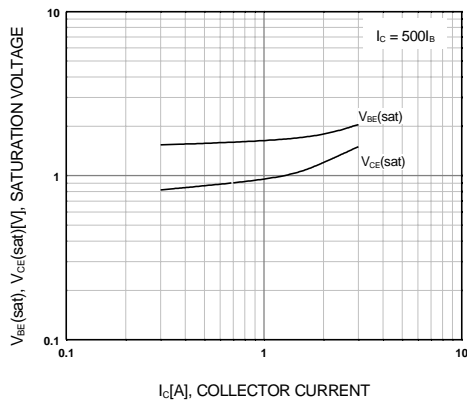


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

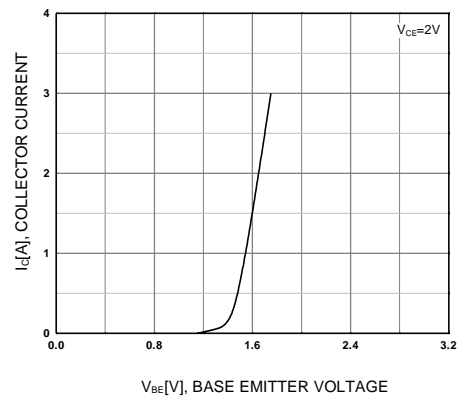


Figure 4. Base-Emitter On Voltage

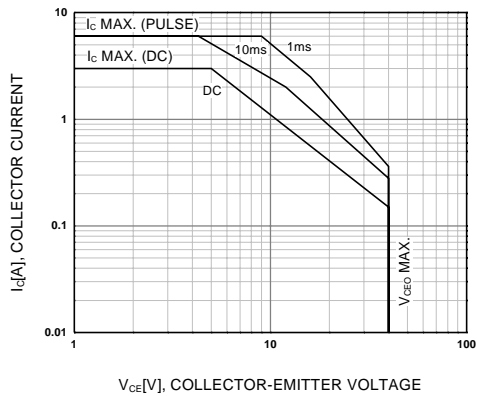


Figure 5. Safe Operating Area

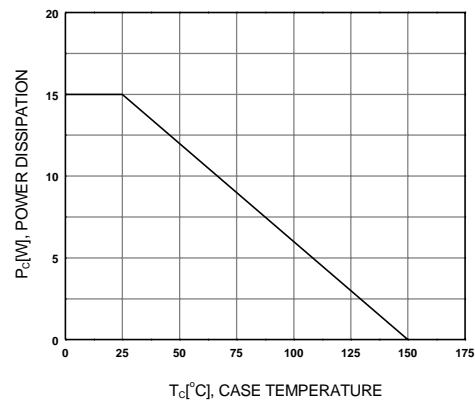
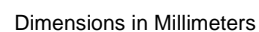


Figure 6. Power Derating

I-PAK



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