

**Power Regulator  
Low Frequency High Power Amplifier**

- Collector-Base Voltage :  $V_{CBO}=80V$
- Collector Dissipation :  $P_C=25W(T_C=25^{\circ}C)$



TO-220  
1.Base 2.Collector 3.Emitter

**NPN Epitaxial Silicon Transistor**

**Absolute Maximum Ratings**  $T_C=25^{\circ}C$  unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	80	V
$V_{CEO}$	Collector-Emitter Voltage	55	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	3	A
$P_C$	Collector Dissipation ( $T_C=25^{\circ}C$ )	25	W
$T_J$	Junction Temperature	150	$^{\circ}C$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^{\circ}C$

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C=500\mu A, I_E=0$	80			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10mA, I_B=0$	55			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=500\mu A, I_C=0$	5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=50V, I_E=0$			50	$\mu A$
$h_{FE}$	DC Current Gain	$V_{CE}=5V, I_C=0.5A$	40		240	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=1A, I_B=0.1A$			1	V

**$h_{FE}$  Classification**

Classification	R	O	Y
$h_{FE}$	40 ~ 80	70 ~ 140	120 ~ 240

# Typical Characteristics

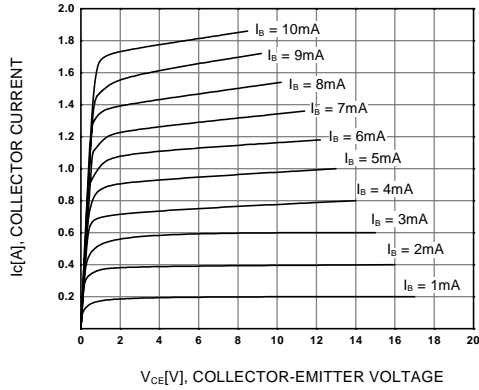


Figure 1. Static Characteristic

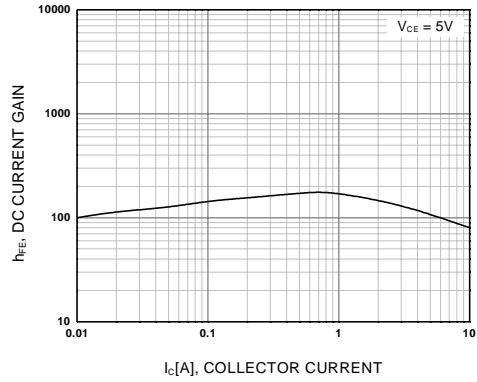


Figure 2. DC current Gain

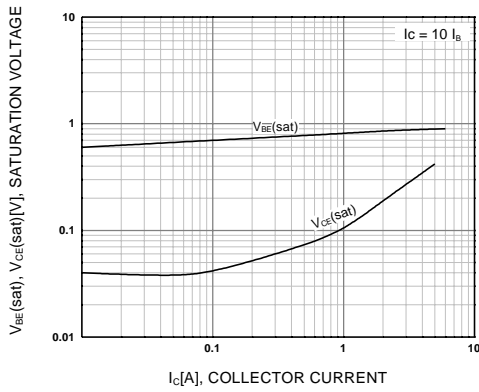


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

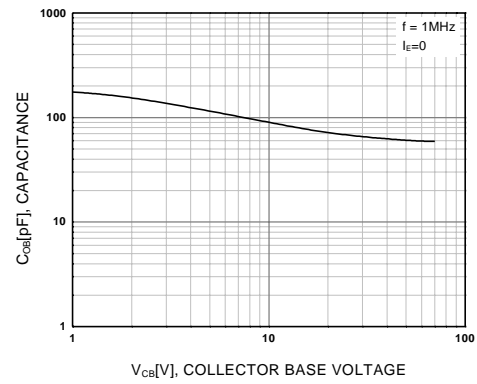


Figure 4. Collector Output Capacitance

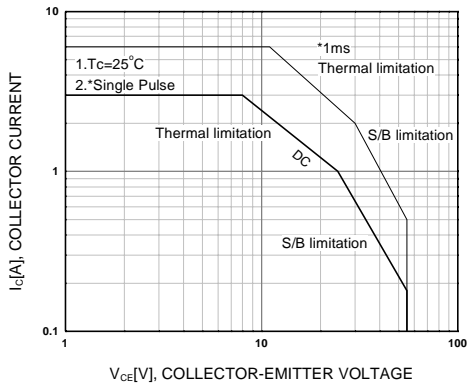


Figure 5. Safe Operating Area

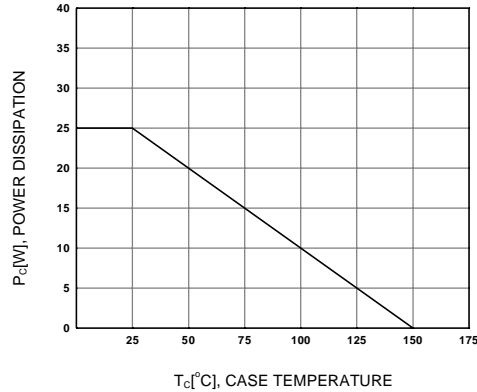


Figure 6. Power Derating

# Package Dimensions

KSD288

## TO-220



Dimensions in Millimeters

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