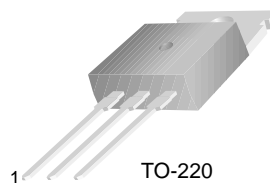


# KSC1173

KSC1173

## Low Frequency Power Amplifier Power Regulator

- Collector Current :  $I_C=3A$
- Collector Dissipation :  $P_C=10W$  ( $T_C=25^\circ C$ )
- Complement to KSA473



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
$BV_{CBO}$	Collector-Base Voltage	30	V
$BV_{CEO}$	Collector-Emitter Voltage	30	V
$BV_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	3	A
$P_C$	Collector Dissipation ( $T_C=25^\circ C$ )	10	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	$I_C = 500\mu A, I_E = 0$	30			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 10mA, I_B = 0$	30			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = -1mA, I_C = 0$	5			
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = 20V, I_E = 0$			1.0	$\mu A$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 5V, I_C = 0$			1.0	$\mu A$
$h_{FE1}$ $h_{FE2}$	DC Current Gain	$V_{CE} = 2V, I_C = 0.5A$ $V_{CE} = 2V, I_C = 2.5A$	70 25		240	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 2A, I_B = 0.2A$		0.3	0.8	V
$V_{BE(on)}$	Base-Emitter ON Voltage	$V_{CE} = 2V, I_C = 0.5A$		0.75	1.0	V
$f_T$	Current Gain Base Width Product	$V_{CE} = 2V, I_C = 0.5A$		100		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = 10V, I_E = 0,$ $f = 1MHz$		35		pF

### $h_{FE}$ Classification

Classification	O	Y
$h_{FE1}$	70 ~ 140	120 ~ 240

# Typical Characteristics

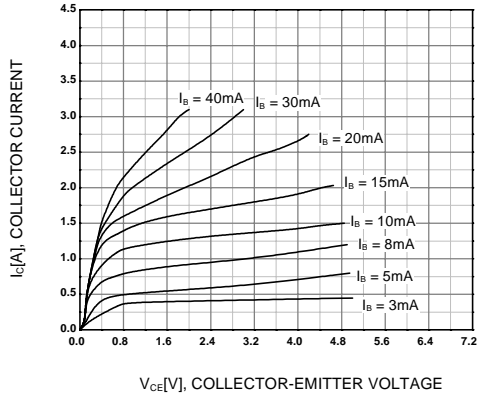


Figure 1. Static Characteristic

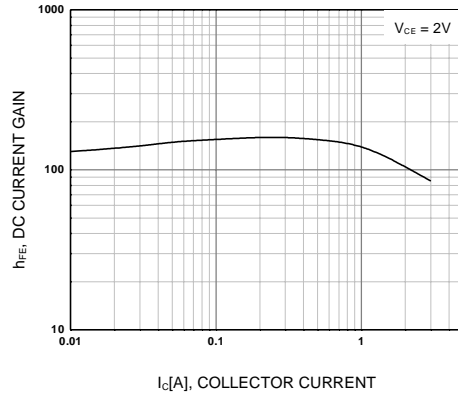


Figure 2. DC current Gain

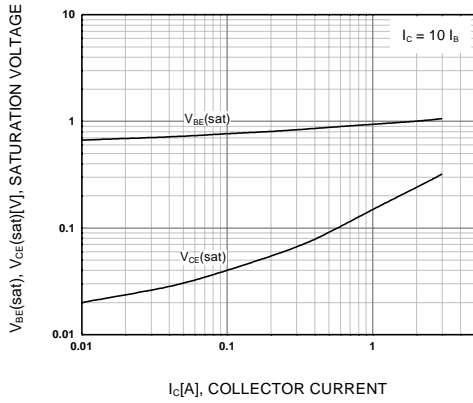


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emmitter Saturation Voltage

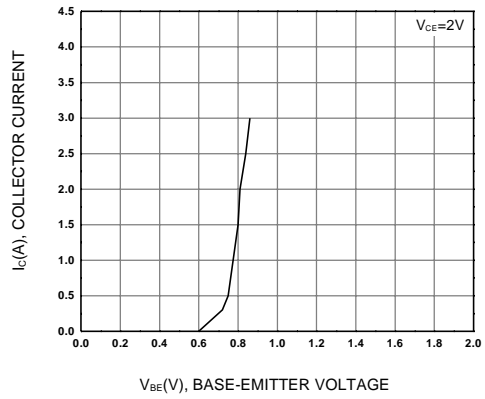


Figure 4. Base-Emitter On Voltage

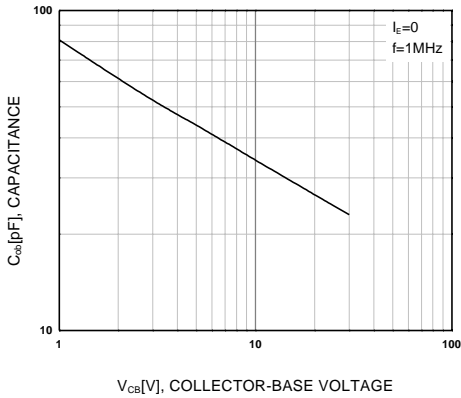


Figure 5. Collector Output Capacitance

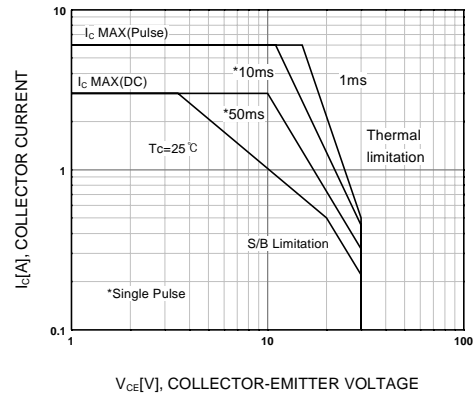


Figure 6. Safe Operating Area

# Typical Characteristics (Continued)

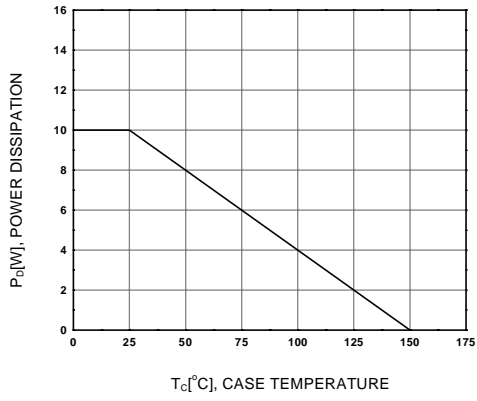


Figure 7. Power Derating

# Package Dimensions

KSC1173

## TO-220



Dimensions in Millimeters

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E <sup>2</sup> CMOS™	PowerTrench®	VCX™
FACT™	QFET™	
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FAST®	Quiet Series™	
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