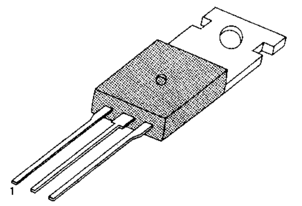
NPN Transistor KSC1173 datasheet

LOW FREQUENCY POWER AMPLIFIER POWER REGULATOR

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

TO-220



1. Base 2. Collector 3. Emitter

ABSOLUTE MAXIMUM RATINGS ($T_a = 25°C$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	BV_{CBO}	30	V
Collector-Emitter Voltage	BV_{CEO}	30	V
Emitter-Base Voltage	BV_{EBO}	5	V
Collector Current	I_C	3	A
Collector Dissipation ($T_C = 25°C$)	P_C	10	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55 ~ +150	°C

ELECTRICAL CHARACTERISTICS ($T_a = 25°C$)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 500\mu A$, $I_E = 0$	30			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 10mA$, $I_B = 0$	30			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = -1mA$, $I_C = 0$	5			
Collector Cut-off Current	I_{CBO}	$V_{CB} = 20V$, $I_E = 0$			1.0	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5V$, $I_C = 0$			1.0	μA
DC Current Gain	$h_{FE}1$	$V_{CE} = 2V$, $I_C = 0.5A$	70		240	
	$h_{FE}2$	$V_{CE} = 2V$, $I_C = 2.5A$	25			
Collector-Emitter Saturation Voltage	V_{CE} (sat)	$I_C = 2A$, $I_B = 0.2A$		0.3	0.8	V
Base-Emitter On Voltage	V_{BE}(on)	$V_{CE} = 2V$, $I_C = 0.5A$		0.75	1.0	V
Current Gain Base Width Product	f_T	$V_{CE} = 2V$, $I_C = 0.5A$		100		MHz
Output Capacitance	Cob	$V_{CB} = 10V$, $I_E = 0$, f=1MHz		35		PF

h_{FE} CLASSIFICATION

Classification	O	Y
h_{FE} (1)	70-140	120-240

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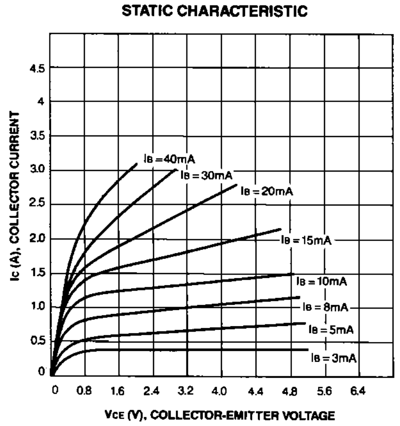

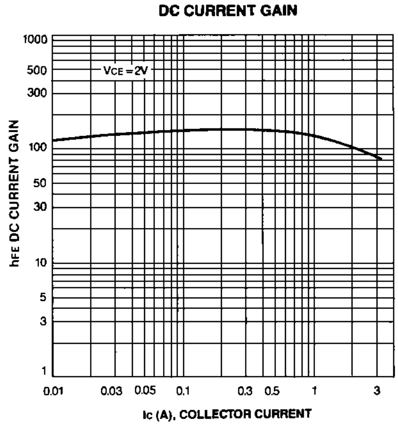

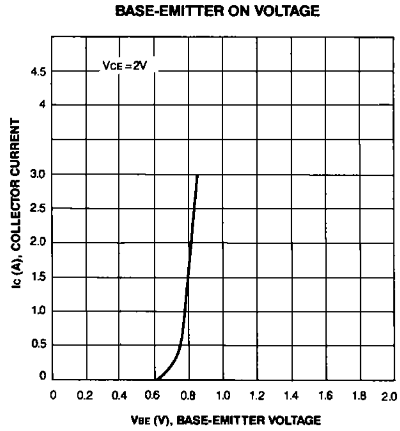

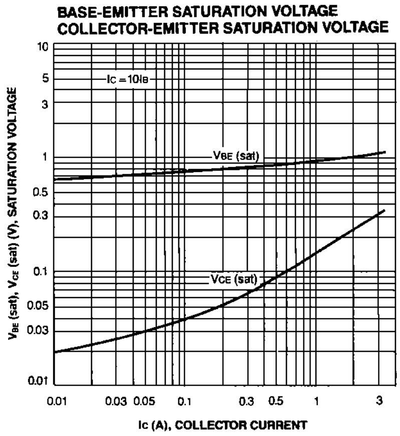

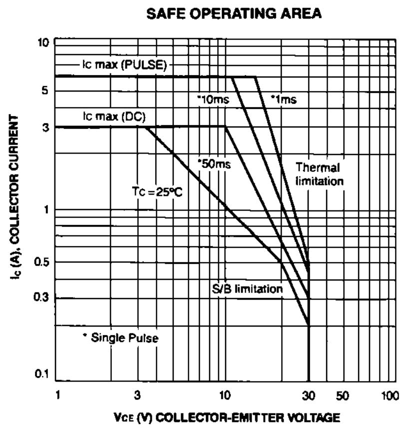

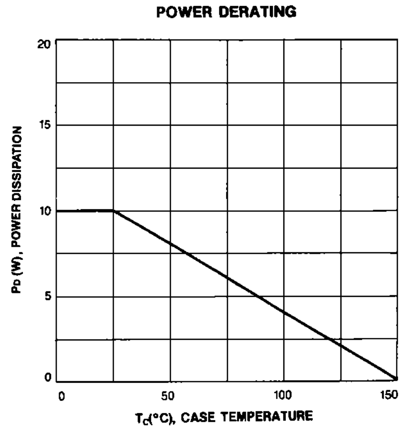

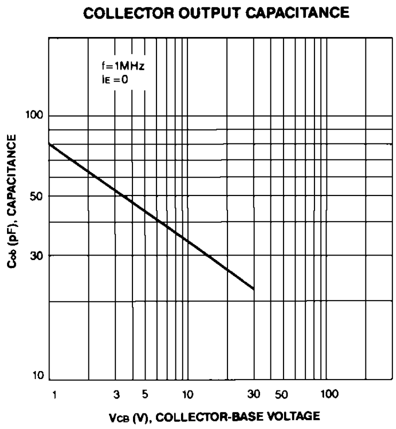
COLLECTOR OUTPUT CAPACITANCE
f=1MHz
IE=0
Cob (pF), CAPACITANCE
100
50
30
10
1
3
5
10
30
50
100
VCB (V), COLLECTOR-BASE VOLTAGE