

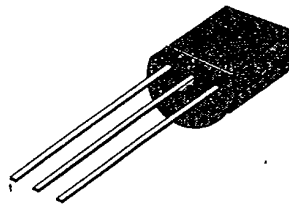
KSC388**NPN EPITAXIAL SILICON TRANSISTOR**

T-31-17

TV FINAL PICTURE IF AMPLIFIER APPLICATIONS• $G_{pe} = 33\text{dB}$ (Typ) ($f = 45\text{MHz}$)**ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)**

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current	I_C	50	mA
Collector Dissipation	P_C	300	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~ 150	$^\circ\text{C}$

TO-92



1. Emitter 2. Base 3. Collector

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Test Conditions	Min.	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 10\mu\text{A}$, $I_E = 0$	30			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 5\text{mA}$, $I_B = 0$	25			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 30\text{V}$, $I_E = 0$			0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 3\text{V}$, $I_C = 0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 12.5\text{V}$, $I_C = 12.5\text{mA}$	20		200	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 15\text{mA}$, $I_B = 1.5\text{mA}$			0.2	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 15\text{mA}$, $I_B = 1.5\text{mA}$			1.5	V
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$	0.8		2	pF
Collector-Base Time Constant	$C_{c'rb'b'}$	$V_{CB} = 10\text{V}$, $I_E = -1\text{mA}$, $f = 30\text{MHz}$			25	ps
Current Gain-Bandwidth Product	f_T	$V_{CE} = 12.5\text{V}$, $I_C = 12.5\text{mA}$	300			MHz
Power Gain	G_{pe}	$V_{CC} = 12.5\text{V}$, $f = 45\text{MHz}$, $I_E = -12.5\text{mA}$	28		36	dB

3

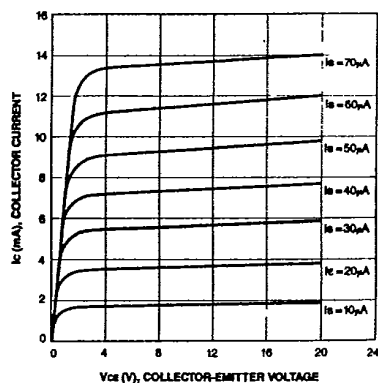


KSC388

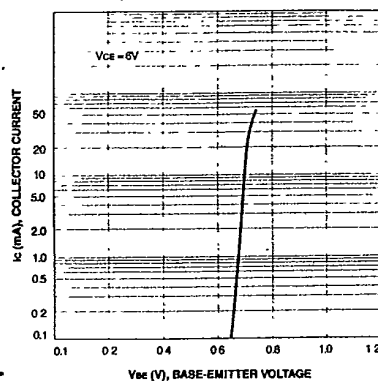
NPN EPITAXIAL SILICON TRANSISTOR

T-31-17

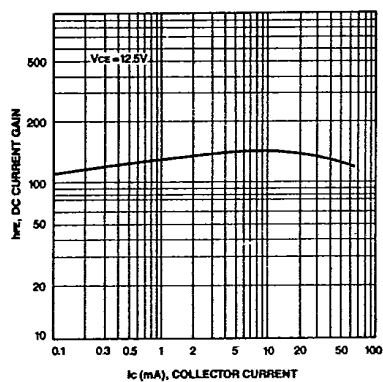
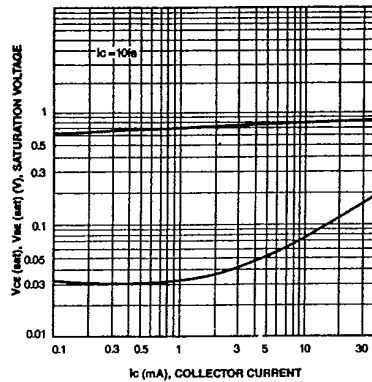
STATIC CHARACTERISTIC



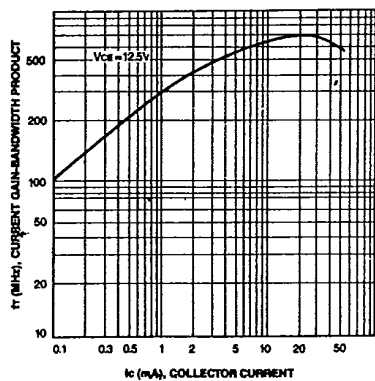
BASE-EMITTER ON VOLTAGE



DC CURRENT GAIN

BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE

CURRENT GAIN-BANDWIDTH PRODUCT

COLLECTOR INPUT CAPACITANCE
COLLECTOR OUTPUT CAPACITANCE