

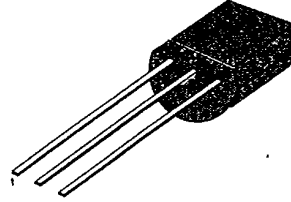
**KSC388****NPN EPITAXIAL SILICON TRANSISTOR**

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	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=3\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=12.5\text{V}, I_C=12.5\text{mA}$	20		200	
Collector-Emitter Saturation Voltage	$V_{CE}(\text{sat})$	$I_C=15\text{mA}, I_B=1.5\text{mA}$			0.2	V
Base-Emitter Saturation Voltage	$V_{BE}(\text{sat})$	$I_C=15\text{mA}, I_B=1.5\text{mA}$			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

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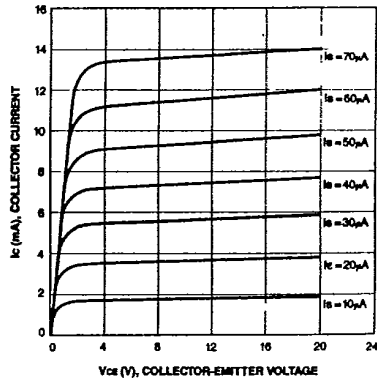


KSC388

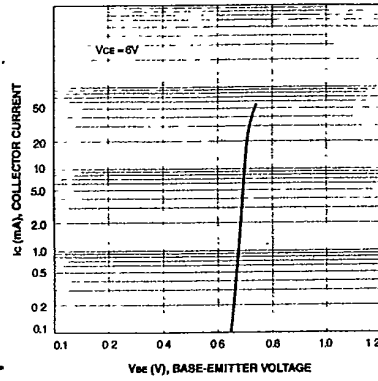
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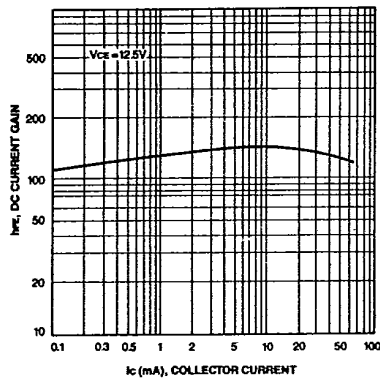
STATIC CHARACTERISTIC



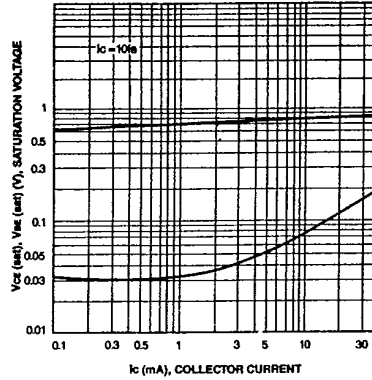
BASE-EMITTER ON VOLTAGE



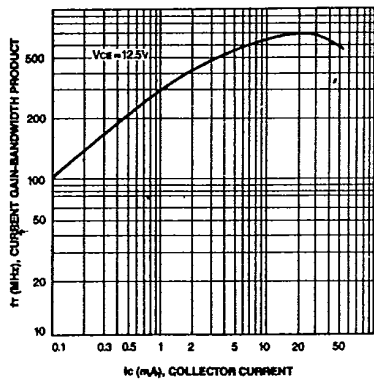
DC CURRENT GAIN



BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE



CURRENT GAIN-BANDWIDTH PRODUCT



COLLECTOR INPUT CAPACITANCE  
COLLECTOR OUTPUT CAPACITANCE

