

## SEMICONDUCTOR TECHNICAL DATA

# KTC9013

EPITAXIAL PLANAR NPN TRANSISTOR

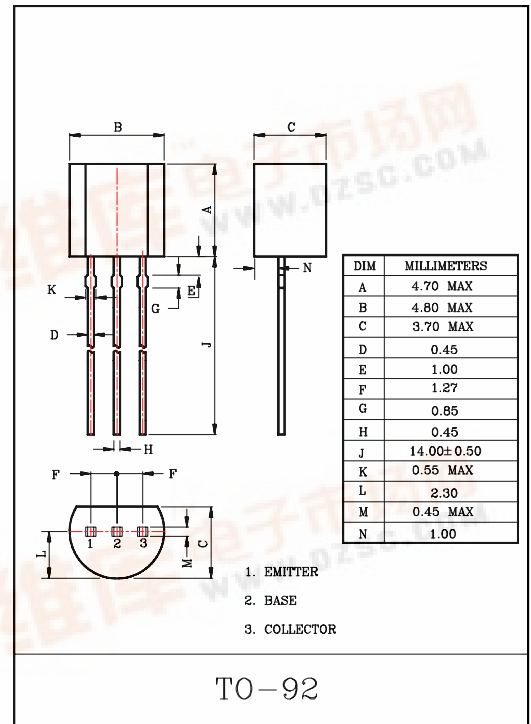
GENERAL PURPOSE APPLICATION,  
SWITCHING APPLICATION.

### FEATURES

- Excellent  $h_{FE}$  Linearity.
- Complementary to KTC9012

### MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	40	V
Collector-Emitter Voltage	$V_{CEO}$	30	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	500	mA
Emitter Current	$I_E$	-500	mA
Collector Power Dissipation	$P_C$	625	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 ~ 150	$^\circ\text{C}$



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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=35\text{V}, I_E=0$	-	-	0.1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$	-	-	0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}(\text{Note})$	$V_{CE}=1\text{V}, I_C=50\text{mA}$	64	-	246	
Collector-Emitter Saturation Voltage	$V_{CE(\text{sat})}$	$I_C=100\text{mA}, I_B=10\text{mA}$	-	0.1	0.25	V
Base-Emitter Voltage	$V_{BE}$	$I_C=100\text{mA}, V_{CE}=1\text{V}$	-	0.8	1.0	V
Transition Frequency	$f_T$	$V_{CE}=6\text{V}, I_C=20\text{mA}, f=100\text{MHz}$	140	-	-	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=6\text{V}, I_E=0, f=1\text{MHz}$	-	7.0	-	pF

Note :  $h_{FE}$  Classification    D:64~91,    E:78~112,    F:96~135,  
    G:118~166,    H:144~202,    I:176~246