

**SEMICONDUCTOR  
TECHNICAL DATA**

**KTD1003**  
EPITAXIAL PLANAR NPN TRANSISTOR

HIGH CURRENT APPLICATION.

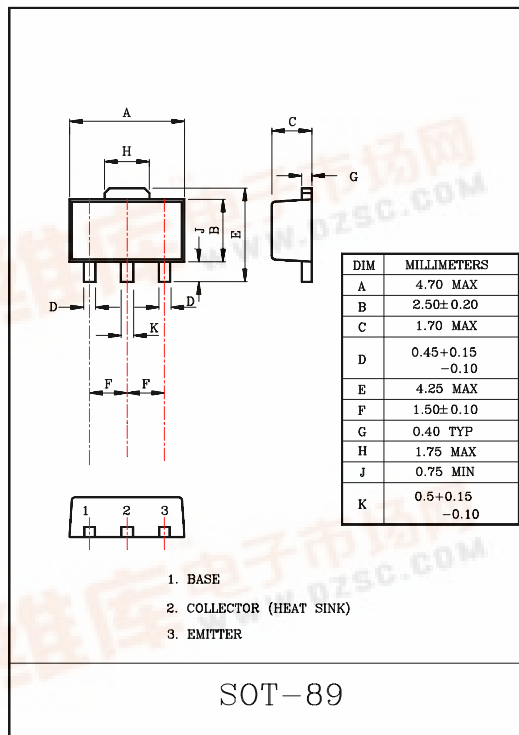
FEATURES

- High DC Current Gain  
:  $h_{FE}=800 \sim 3200$ . ( $V_{CE}=5.0V$ ,  $I_C=300mA$ ).
- Wide Area of Safe Operation.
- Low Collector Saturation Voltage  
:  $V_{CE(sat)}=0.17V$  ( $I_C=500mA$ ,  $I_B=5.0mA$ ).

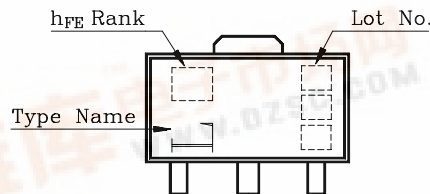
MAXIMUM RATINGS ( $T_a=25^\circ C$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter-Base Voltage	$V_{EBO}$	8	V
Collector Current	$I_C$	1.0	A
Collector Power Dissipation	$P_C$	500	mW
	$P_C^*$	1	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55 ~ 150	$^\circ C$

$P_C^*$  : KTD1003 Mounted on Ceramic Substrate (250mm<sup>2</sup>x0.8t)



Marking



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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=60V$ , $I_E=0$	-	-	100	nA
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=8V$ , $I_C=0$	-	-	100	nA
DC Current Gain	$h_{FE(1)}$ Note	$V_{CE}=5.0V$ , $I_C=300mA$	800	1500	3200	
	$h_{FE(2)}$	$V_{CE}=5.0V$ , $I_C=1.0A$	400	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500mA$ , $I_B=5.0mA$	-	0.17	0.30	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=500mA$ , $I_B=5.0mA$	-	0.80	1.2	V
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10V$ , $I_E=0$ , $f=1.0MHz$	-	18	30	pF
Transition Frequency	$f_T$	$V_{CE}=10V$ , $I_E=500mA$ , $f=100MHz$	150	250	-	MHz
Base-Emitter Voltage	$V_{BE}$	$V_{CE}=5V$ , $I_C=100mA$	600	630	700	mV

Note :  $h_{FE}$  Classification    A:800 ~ 1600,    B:1200 ~ 2400,    C:2000 ~ 3200

# KTD1003

