



DONGGUAN NANJING ELECTRONICS LTD.,

NPN Silicon Epitaxial Planar Transistor

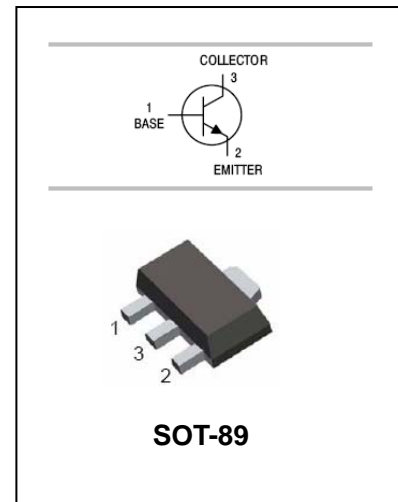
KTC4377

FEATURES

- High DC Current Gain and Excellent h_{FE} Linearity
: $h_{FE(1)}=140\ 600(V_{CE}=1V, I_C=0.5A)$
: $h_{FE(2)}=70(\text{Min.}), 140(\text{Typ.}) (V_{CE}=1V, I_C=2A).$
- Low saturation voltage: $V_{CE(sat)}=0.5V(\text{Max.}) (I_C=2A, I_B=50mA).$
- Small flat package.

APPLICATIONS

- Power amplifier application.
- Power switching application.



ORDERING INFORMATION

Type No.	Marking	Package Code
KTC4377	SA/SB/SC/SD	SOT-89

MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	10	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	2	A
I_B	Base Current	0.4	A
P_C	Collector Dissipation	500	mW
T_j, T_{stg}	Junction and Storage Temperature	-55 to +150	$^\circ\text{C}$

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	10			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=30V, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=6V, I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=1V, I_C=500mA$	140		600	
	$h_{FE(2)}$	$V_{CE}=1V, I_C=2A$	70	140		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2A, I_B=50mA$		0.2	0.5	V
Base-emitter saturation voltage	V_{BE}	$V_{CE}=1V, I_C=500mA$		0.86	1.5	V
Transition frequency	f_T	$V_{CE}=1V, I_C=0.5A$		150		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		30		pF

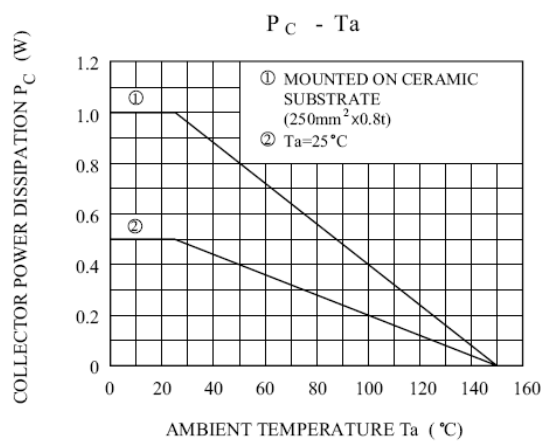
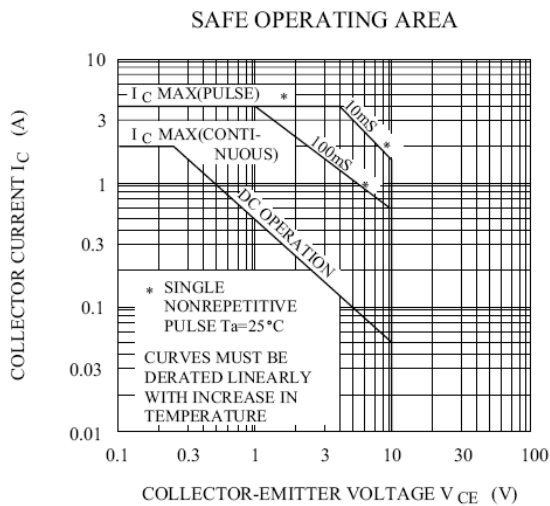
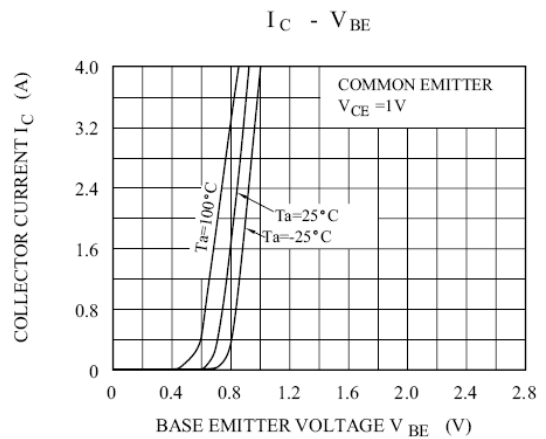
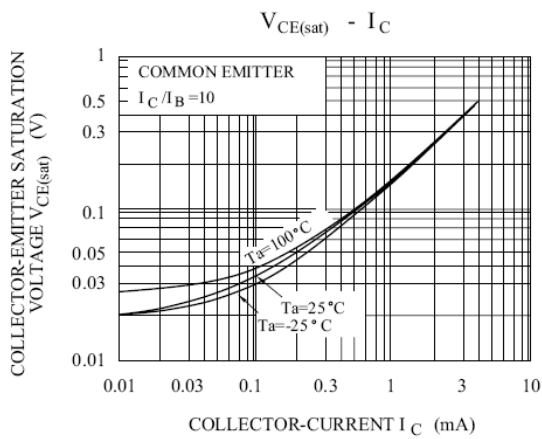
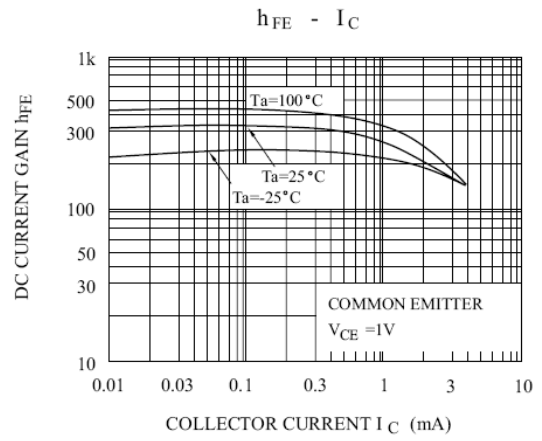
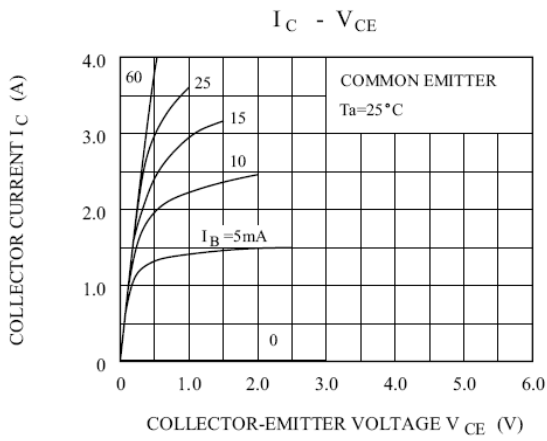
CLASSIFICATION OF $h_{FE(1)}$

Rank	A	B	C	D
Range	140-240	200-330	300-450	420-600
MARKING	SA	SB	SC	SD

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TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified



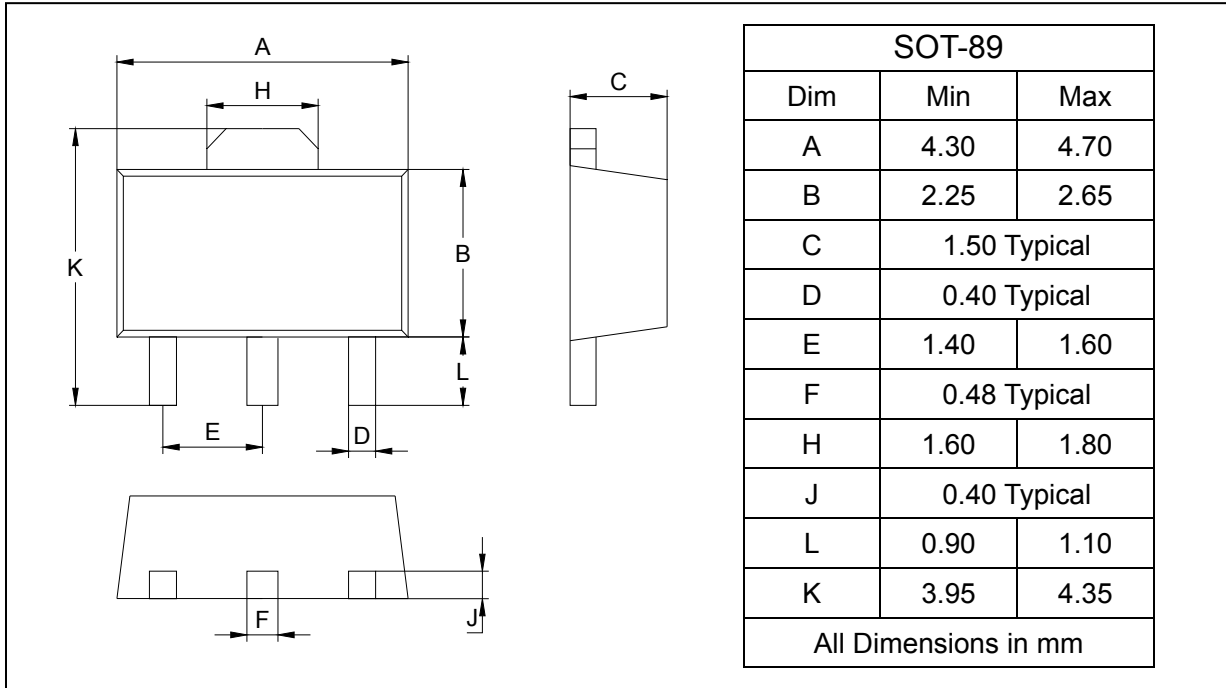
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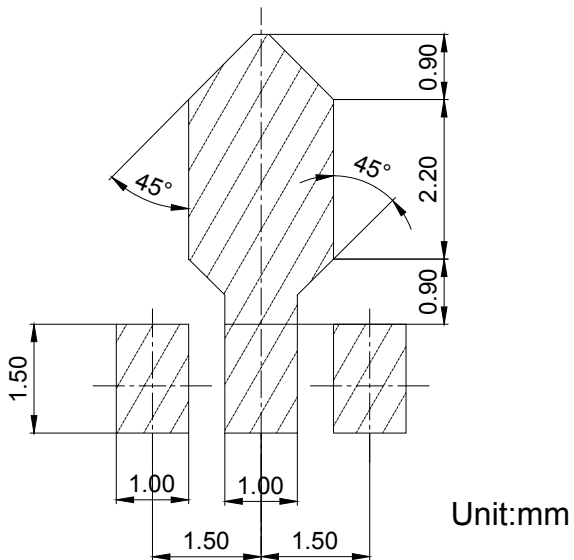
PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
KTC4377	SOT-89	1000/Tape&Reel