

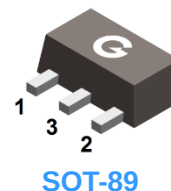
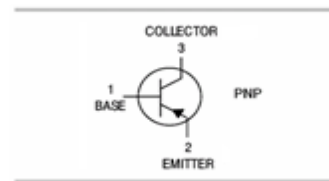
Features

- Excellent DC current gain characteristics
- Low saturation voltage typically
- Complement to KTC4379
- RoHS compliant with Halogen-free

HF

Mechanical Data

- Case: SOT-89
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
KTA1666-O	SOT-89	1000 pcs / Tape & Reel	WO
KTA1666-Y	SOT-89	1000 pcs / Tape & Reel	WY

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	-50	V
Collector-Emitter Breakdown Voltage	V _{CEO}	-50	V
Emitter-Base Breakdown Voltage	V _{EBO}	-5	V
Collector Current (Continuous)	I _C	-2	A
Collector Current (Peak)	I _{CM}	-4	A
Base Current (Continuous)	I _B	-0.4	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	0.5	W
Thermal Resistance Junction-to-Air *1	R _{θJA}	250	°C/W
Power Dissipation	P _D	2.8	W
Thermal Resistance Junction-to-Air *2	R _{θJA}	45	°C/W
Thermal Resistance Junction-to-Case	R _{θJC}	17	°C/W
Junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -1\text{mA}, I_E = 0$	-50	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10\text{mA}, I_B = 0$	-50	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -1\text{mA}, I_C = 0$	-5	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -50\text{V}, I_E = 0$	-	-	-0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$	-	-	-0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = -2\text{V}, I_C = -0.5\text{A}$	70	-	240	-
		$V_{CE} = -2\text{V}, I_C = -1.5\text{A}$	40	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -1\text{A}, I_B = -0.05\text{A}$	-	-	-0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -1\text{A}, I_B = -0.05\text{A}$	-	-	-1.2	V
Output Capacity	C_{ob}	$V_{CB} = -10\text{V}, f = 1\text{MHz}, I_E = 0$	-	40	-	pF
Current-Gain—Bandwidth Product	f_T	$I_C = -0.5\text{A}, V_{CE} = -2\text{V}$ $f = 100\text{MHz}$	-	120	-	MHz

Classification of h_{FE}

Rank	O	Y
Range	70 ~ 140	120 ~ 240
Marking	WO	WY

Notes:

- The data tested by surface mounted on a minimum recommended FR-4 board
- The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

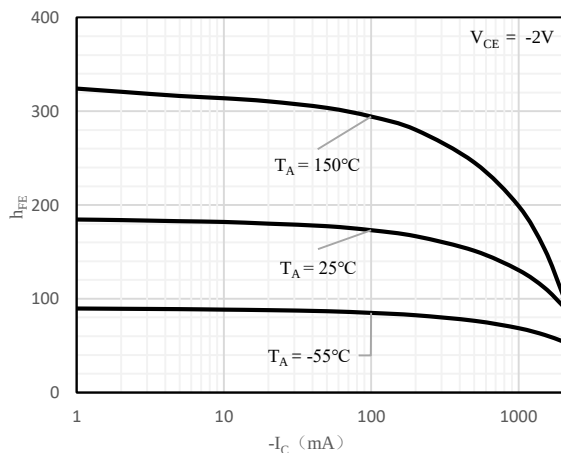


Fig 1 h_{FE} vs. I_C

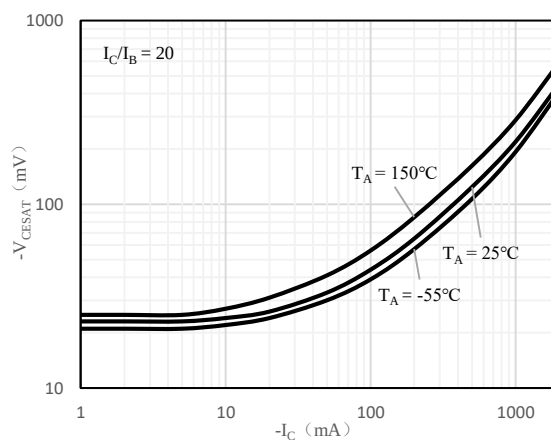


Fig 2 $V_{CE(sat)}$ vs. I_C

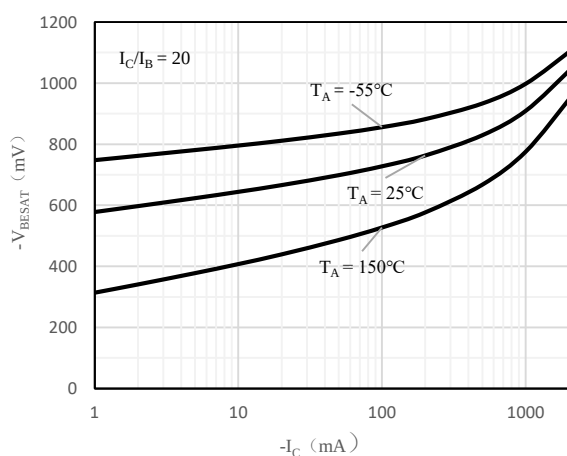


Fig 3 $V_{BE(sat)}$ vs. I_C

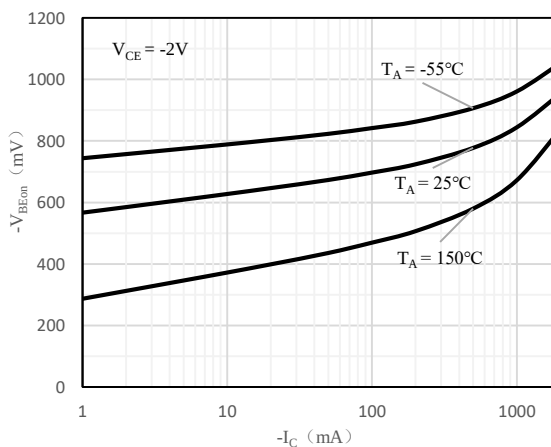


Fig 4 $V_{BE(on)}$ vs. I_C

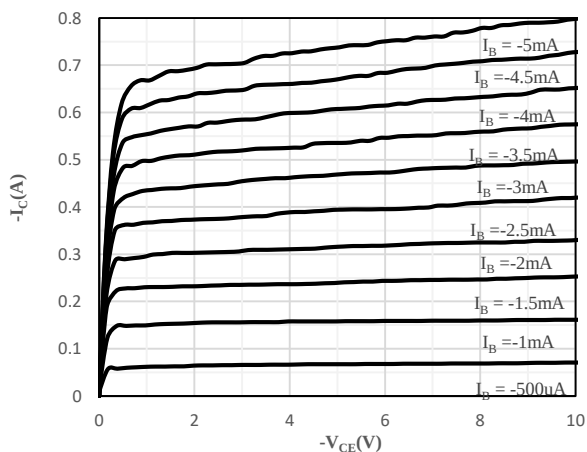


Fig 5 I_C vs. V_{CE}

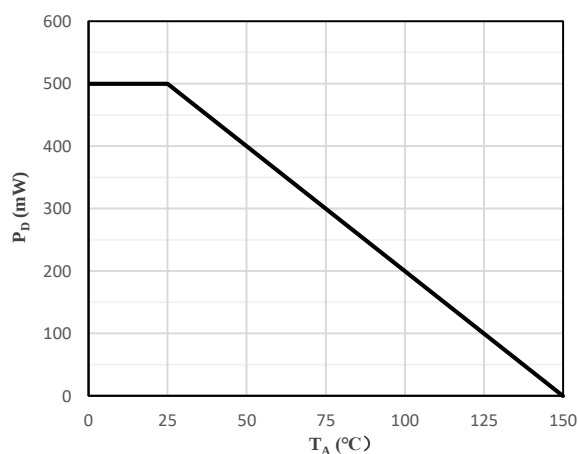
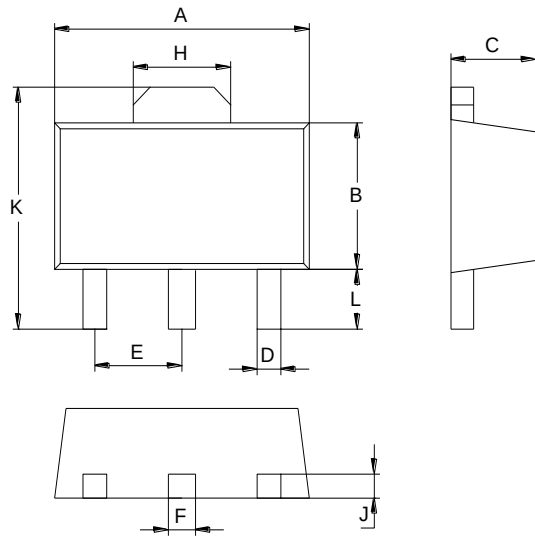


Fig 6 Steady State Power Derating

Package Outline Dimensions (Unit: mm)



SOT-89		
Dimension	Min.	Max.
A	4.30	4.70
B	2.25	2.65
C	1.30	1.70
D	0.30	0.50
E	1.40	1.60
F	0.38	0.58
H	1.60	1.80
J	0.30	0.50
L	0.90	1.10
K	3.95	4.35

Mounting Pad Layout (Unit: mm)

SOT-89

