

## Descriptions

Silicon NPN transistor in a TO-92 Plastic Package

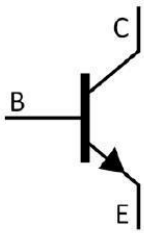
## Features

- Excellent  $h_{FE}$  linearity
- Low noise
- Complementary pair with KTA1266

## Applications

General amplifier and switching application

## Equivalent Circuit & Pinning



PIN1: Collector



PIN 2: Base

PIN 3: Emitter

## $h_{FE}$ Classifications & Marking

$h_{FE}$ Classifications Symbol	O	Y	GR	BL
$h_{FE}$ Range	70~140	120~240	200~400	300~700

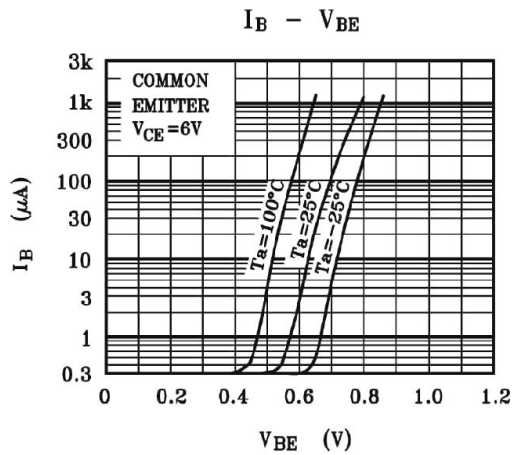
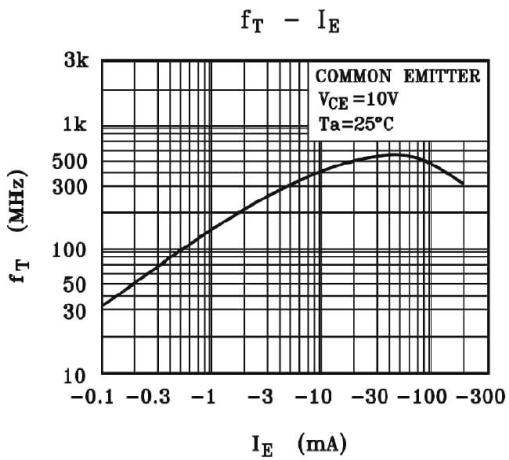
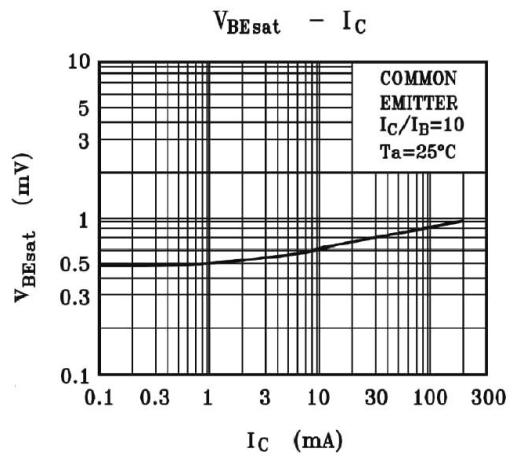
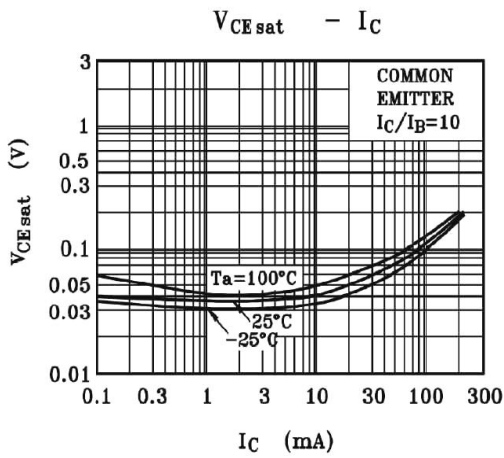
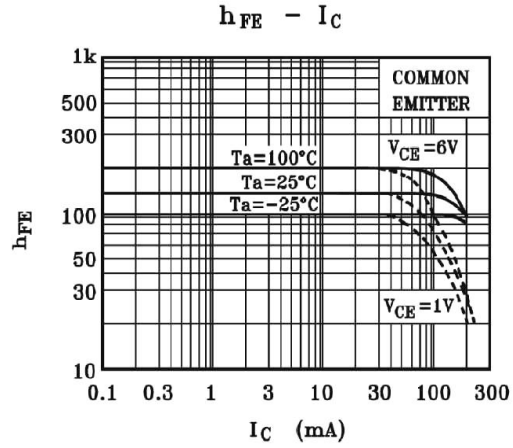
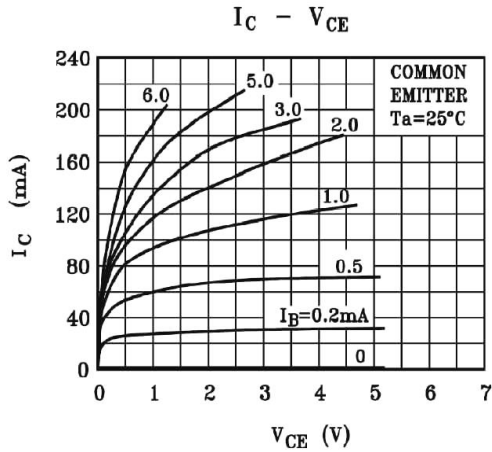
## Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	60	V
Collector to Emitter Voltage	$V_{CEO}$	50	V
Emitter to Base Voltage	$V_{EBO}$	5.0	V
Collector Current - Continuous	$I_C$	150	mA
Base Current - Continuous	$I_B$	50	mA
Collector Power Dissipation	$P_C$	625	mW
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55~150	°C

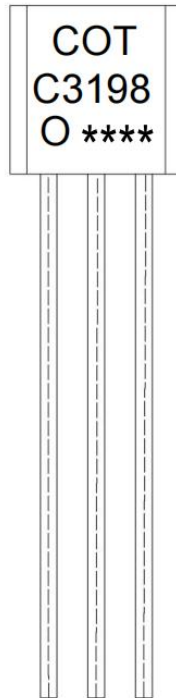
## Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=60V$ $I_E=0$			0.1	$\mu A$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=5.0V$ $I_C=0$			0.1	$\mu A$
DC Current Gain	$h_{FE(1)}$	$V_{CE}=6.0V$ $I_C=2.0mA$	70		700	
	$h_{FE(2)}$	$V_{CE}=6.0V$ $I_C=150mA$	25	100		
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100mA$ $I_B=10mA$		0.1	0.25	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100mA$ $I_B=10mA$			1.0	V
Transition Frequency	$f_T$	$V_{CE}=10V$ $I_C=1.0mA$	80			MHz
Collector Capacitance	$C_{ob}$	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$		2.0	3.5	pF
Noise Figure	NF	$V_{CE}=6.0V$ $I_C=0.1mA$ $R_g=10K\Omega$ $f=1.0KHz$		1.0	10	dB
Collector- Base Time Constant	$\tau_{bb'}$	$V_{CB}=10V$ $I_C=1.0mA$ $f=30MHz$		50		$\Omega$

Electrical Characteristic Curve



**Marking Instructions**



Note:

- COT: Company Code.
- C3198: Product Type.
- O: hFE Classifications Symbol
- \*\*\*\*: Lot No. Code,code change with Lot No.

h <sub>FE</sub> Classifications Symbol	O	Y	GR	BL
h <sub>FE</sub> Range	70~140	120~240	200~400	300~700

**Packaging SPEC**

**BULK**

Package Type	Units					Dimension (unit: mm3)		
	Units/Bag	Bags/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Bag	Inner Box	Outer Box
TO-92	1,000	10	10,000	5	50,000	135×190	237×172×102	560×245×195
	1,000	10	10,000	10	100,000	135×190	237×172×102	560×245×375

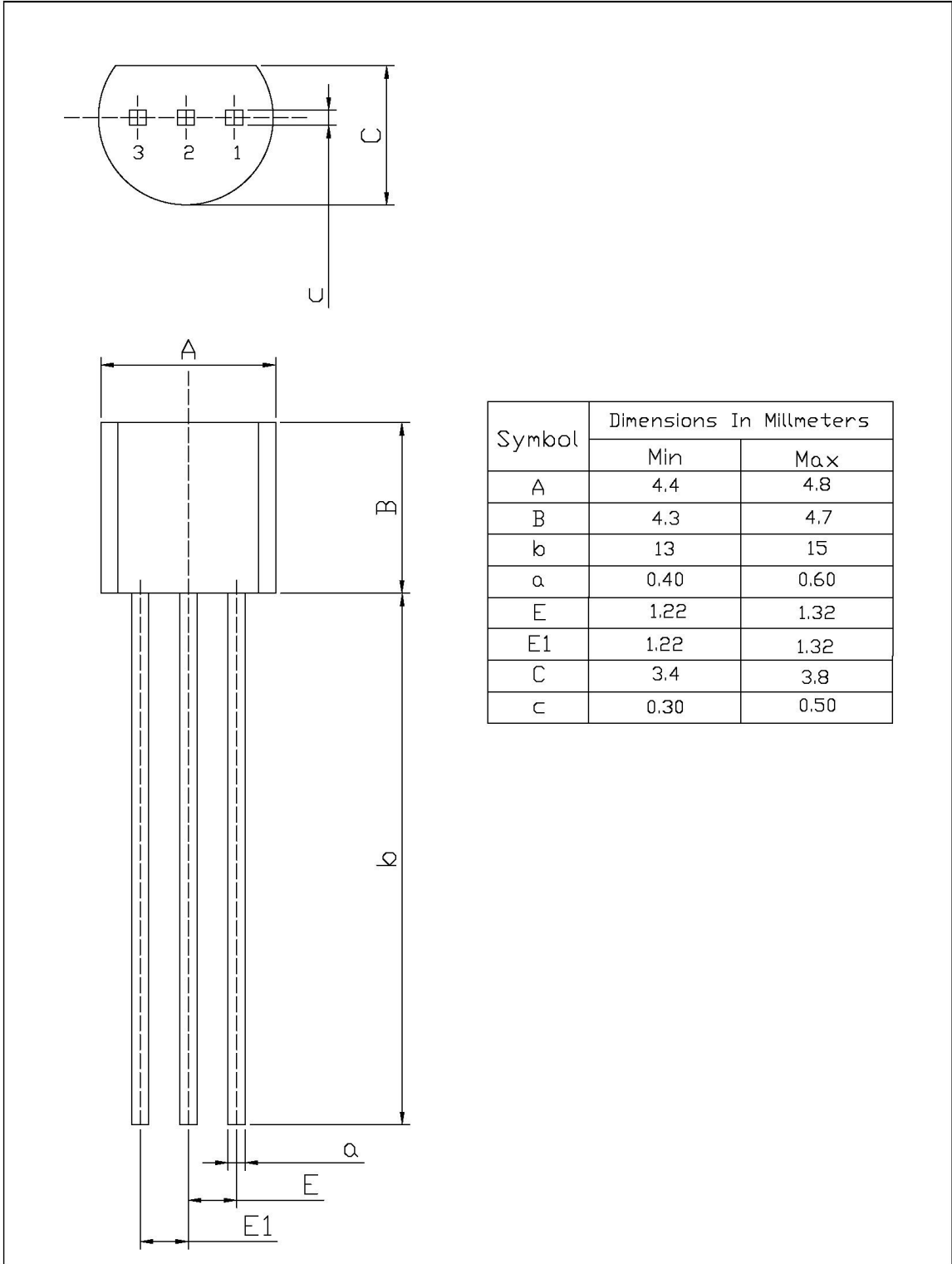
**AMMO**

Package Type	Units					Dimension (unit: mm3)	
	Units/tape	Tape/Inner Box	Rows/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Inner Box	Outer Box
TO-92	3,000	1	120	10	30,000	328×230×42	480×346×235, 547×407×268

**Package Outline Dimensions**

TO-92

Unit: mm



Symbol	Dimensions In Millimeters	
	Min	Max
A	4.4	4.8
B	4.3	4.7
b	13	15
a	0.40	0.60
E	1.22	1.32
E1	1.22	1.32
C	3.4	3.8
c	0.30	0.50