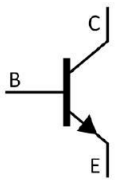


Rev.F Mar.-2016

TO-220F NPN Silicon NPN transistor in a TO-220F Plastic Package.

h_{FE} , KTB1368
 Good Linearity of h_{FE} , complementary pair with KTB1368.

General Purpose Application.

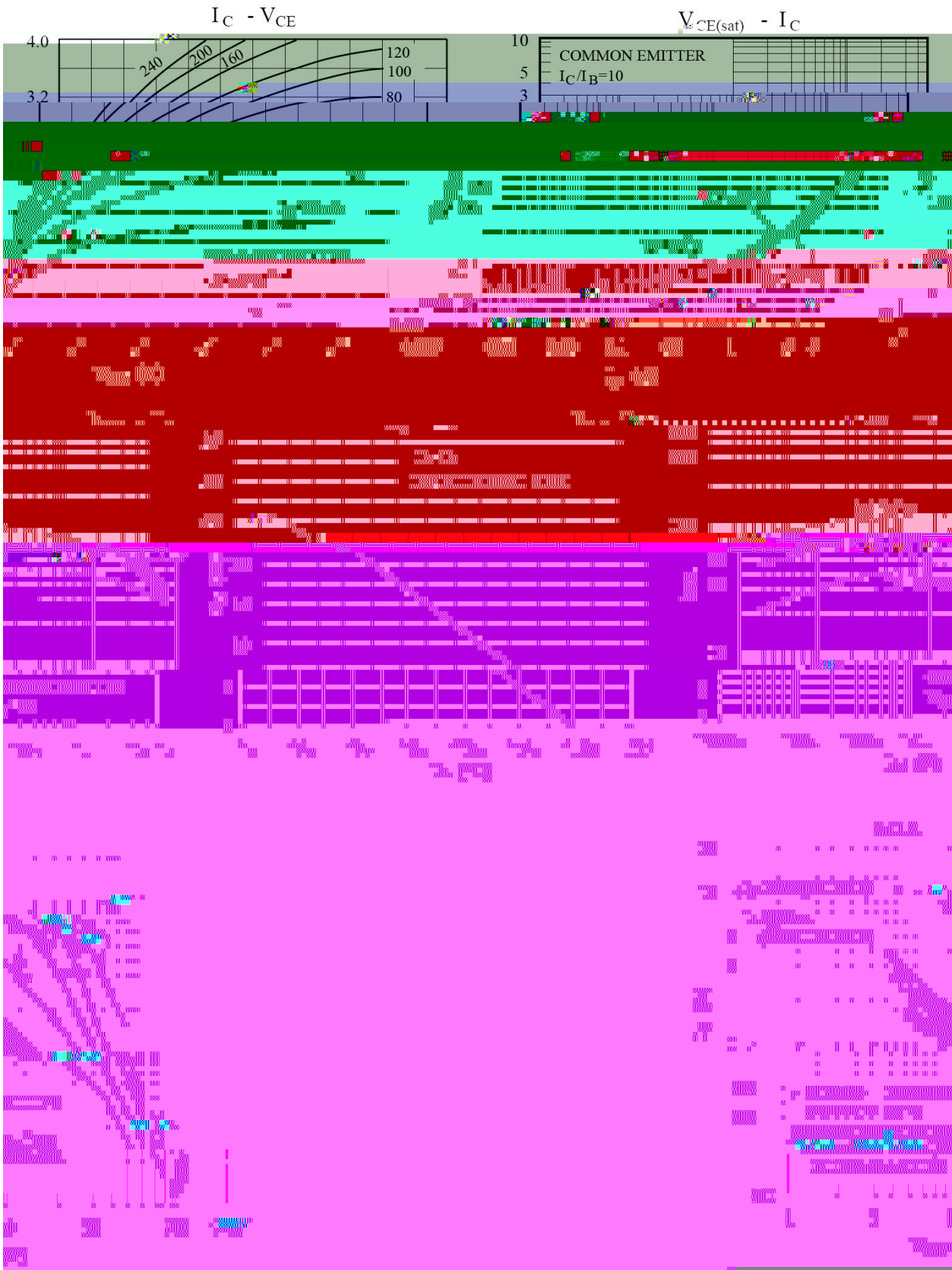


PIN1 Base PIN 2 Collector PIN 3 Emitter

h_{FE} Classifications Symbol	R	O	Y
h_{FE} Range	40~80	70~140	120~240

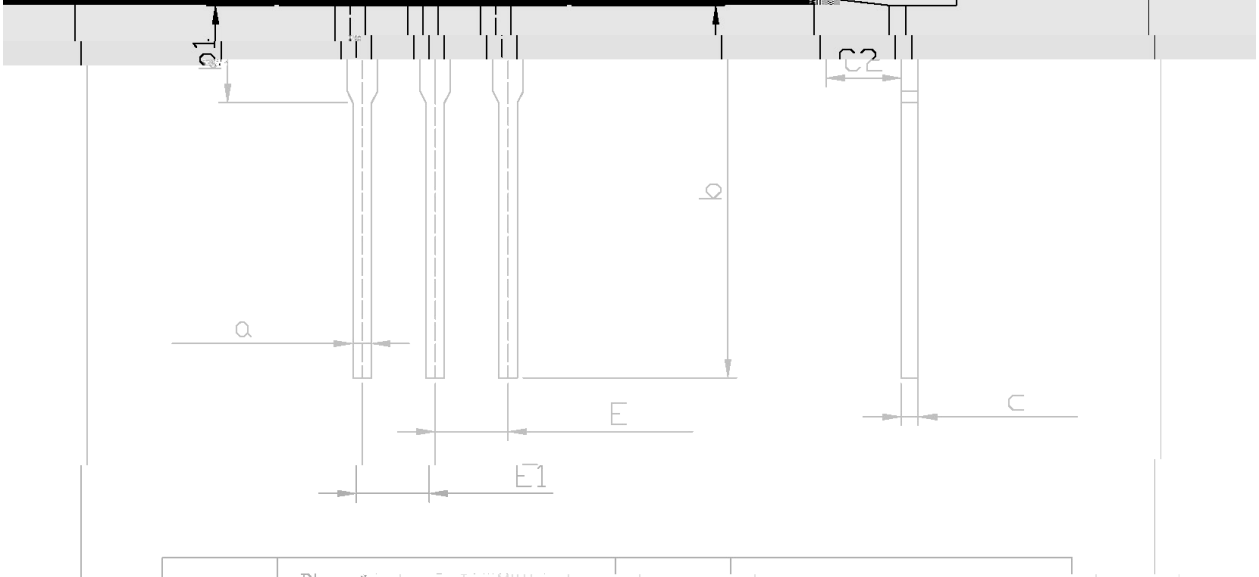
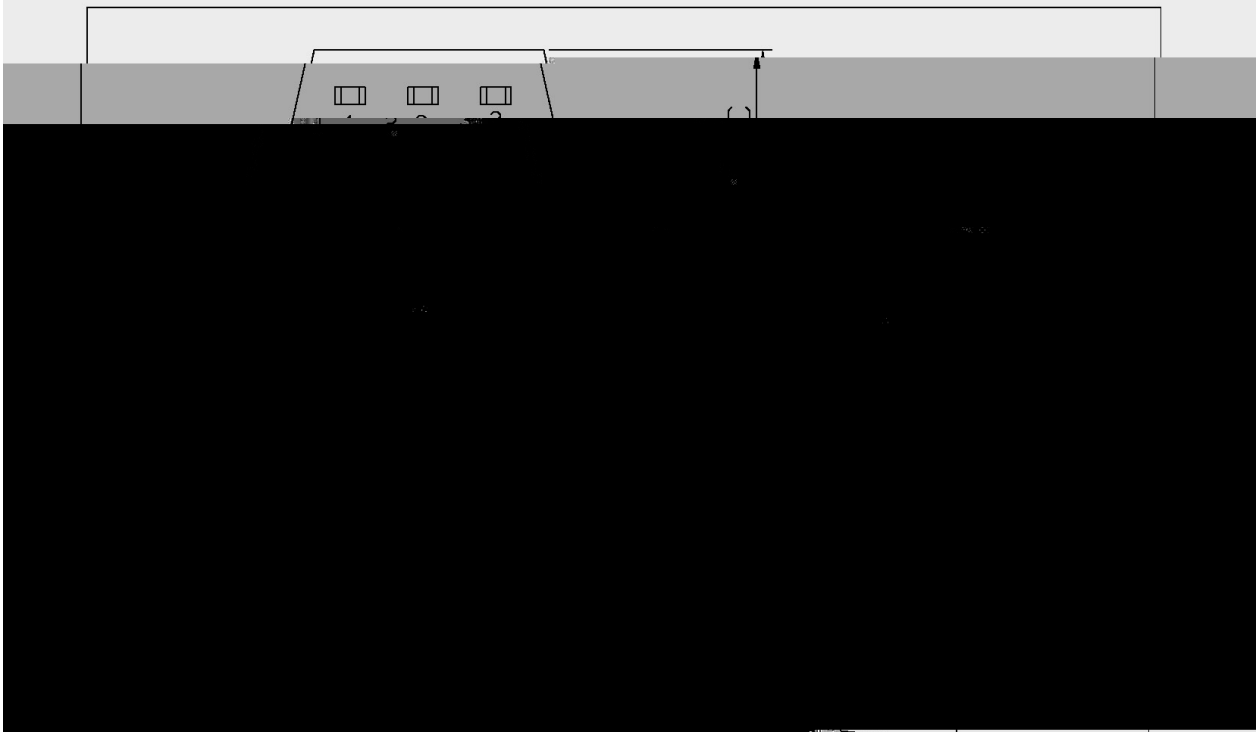
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	80	V
Collector to Emitter Voltage	V_{CEO}	80	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current - Continuous	I_C	4	A
Base Current	I_B	0.4	A
Collector Power Dissipation	$P_C(T_C=25^\circ C)$	25	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C=50mA$ $I_B=0$	80			V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_C=10mA$ $I_B=0$	5			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=80V$ $I_E=0$			30	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			100	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5.0V$ $I_C=0.5A$	40		240	
	$h_{FE(2)}$	$V_{CE}=5.0V$ $I_C=3.0A$	15	50		
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=3.0A$ $I_B=0.3A$		0.45	1.5	V
Base-Emitter Voltage	V_{BE}	$V_{CE}=5.0V$ $I_C=3.0A$		1.0	1.5	V
Transition Frequency	f_T	$I_C=0.5A$ $V_{CE}=5.0V$		8.0		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V$ $f=1.0MHz$ $I_E=0$		90		pF

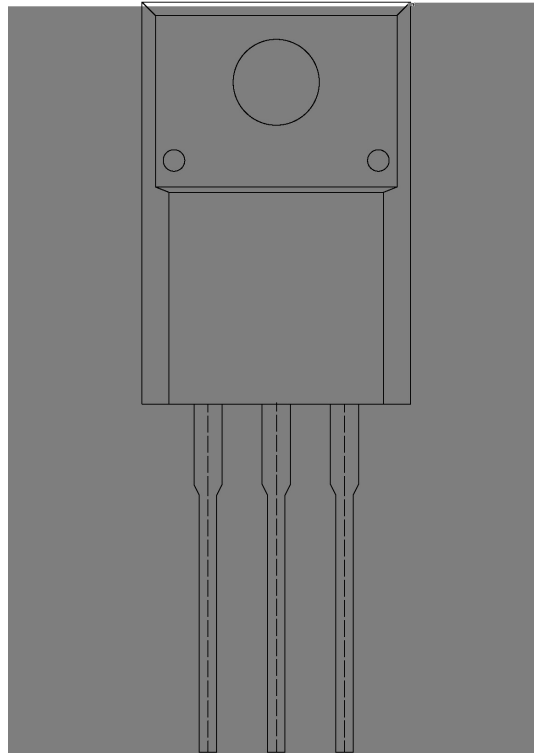


TO-220F

单位: mm



Dimensions In Millimeters			Dimensions In Millimeters		
Symbol	Min	Max	Symbol	Min	Max
C	4.3	4.7	b1	2.9	3.9
A	9.7	10.3	a	0.55	0.75
B	14.7	15.3	E	2.29	2.79
B1	3.8	4.0	E1	2.29	2.79
B2	2.9	3.1	C1	2.5	2.9
R	3.0	3.4	C2	2.5	2.7
b	12.5	13.5	c	0.5	0.7



BR

D2060

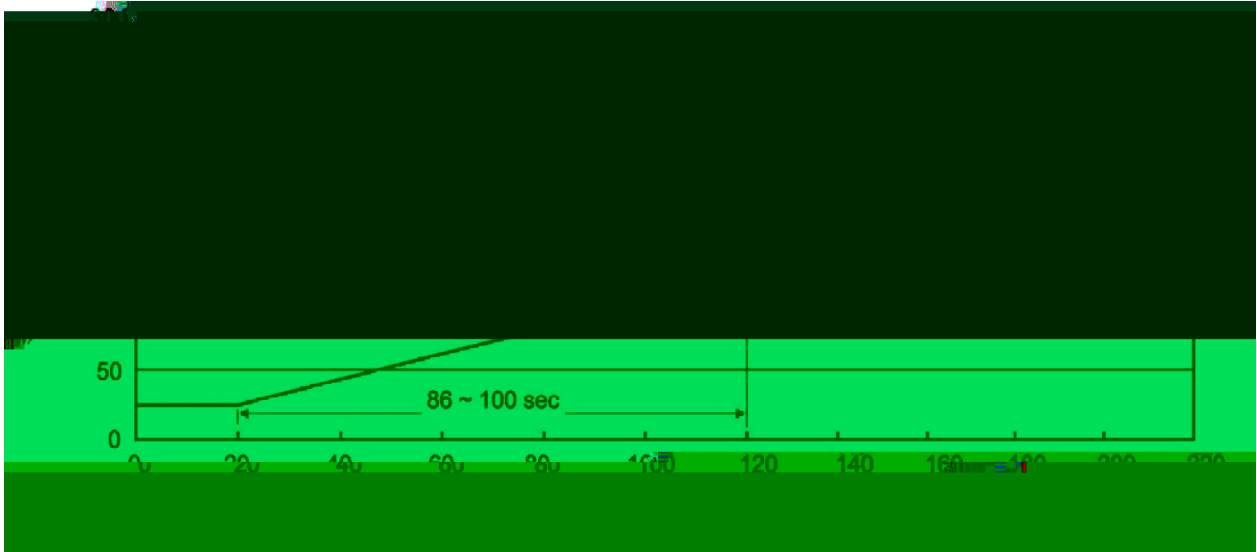
R:

Note:

BR: Company Code.

D2060: Product Type.

R: h_{FE} Classifications Symbol.



- | | | | | |
|---|-------|-----|-----------|--------|
| 1 | 25 | 150 | 60 | 90sec; |
| 2 | 255±5 | | 5±0.5sec; | |
| 3 | | 2 | 10 /sec. | |

Note:

1. Preheating: 25~150 , Time: 60~90sec.
2. Peak Temp.: 255±5 , Duration: 5±0.5sec.
3. Cooling Speed: 2~10 /sec.

270±5

10±1 sec.

Temp: 270±5

Time: 10±1 sec

/ BULK

Package Type	Units					Dimension (unit mm3)		

/ TUBE

Package Type	Units					Dimension (unit mm3)		