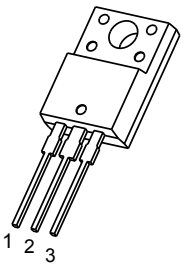
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-220F Plastic-Encapsulate Transistors

KTD2058 TRANSISTOR (NPN)

TO-220F



1. **BASE**
2. **COLLECTOTR**
3. **EMITTER**

FEATURES

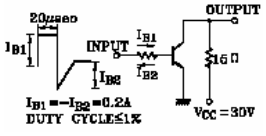
- **Low Collector Saturation Voltage**
  $V_{CE(SAT)}$ = 1. 0V(MAX) .

MAXIMUM RATINGS*(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current -Continuous	3	A
P_C	Collector Power Dissipation	2	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~+150	℃

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

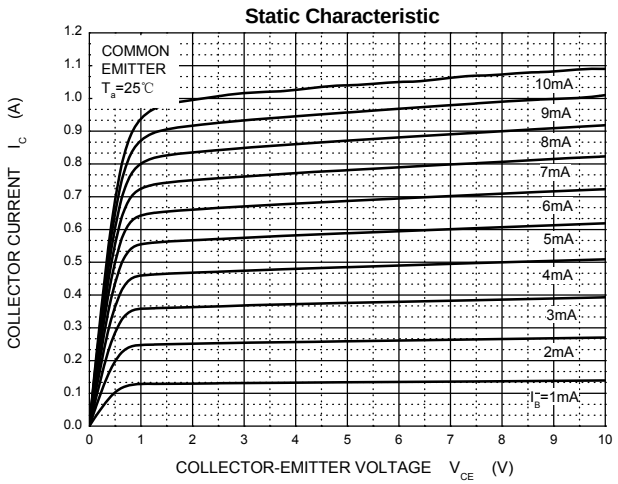
ELECTRICALCHARACTERISTICS(Ta=25℃ unless otherwise specified)

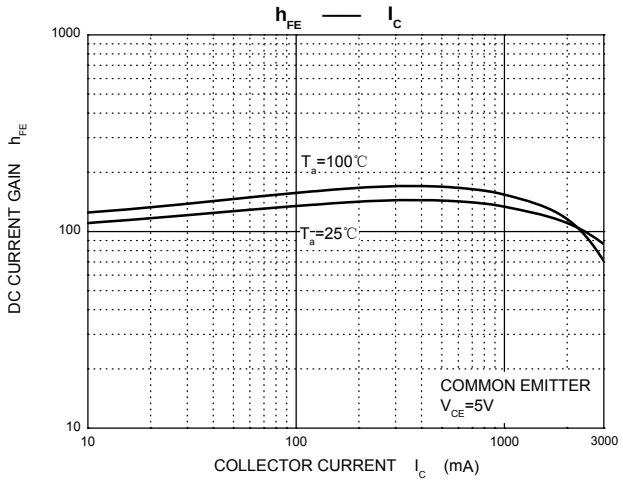
Parameter		Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage		$V_{(BR)CBO}$	Ic=100μA, I_E=0	60			V
Collector-emitter breakdown voltage		$V_{(BR)CEO}$	Ic=50mA, I_B=0	60			V
Emitter-base breakdown voltage		$V_{(BR)EBO}$	I_E=100 μA, I_C=0	7			V
Collector cut-off current		I_{CBO}	V_{CB}=60V, I_E=0			100	μA
Emitter cut-off current		I_{EBO}	V_{EB}=7V, I_C=0			100	μA
DC current gain		$h_{FE(1)}$	V_{CE}=5V, I_C=0.5A	60		200	
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C=2A, I_B=0.2A			1	V
Base-emitter voltage		$V_{BE(on)}$	V_{CE}=5V, I_C=0.5A			1	V
Transition frequency		f_T	V_{CE}=5V, I_C=0.5A		3		MHz
Collector output capacitance		C_{ob}	V_{CB}=10V, I_E=0, f=1MHz		35		pF
Switching time	**Turn-on Time**	t_{on}			0.65		us
	Storage Time	t_{stg}			1.3		
	Fall Time	t_f			0.65		

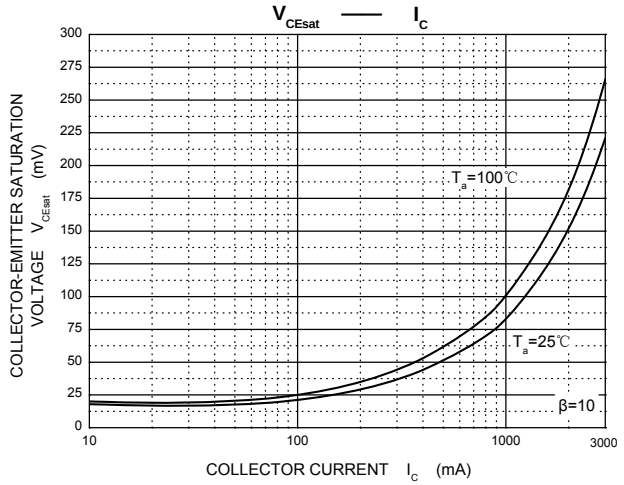
CLASSIFICATION of $h_{FE(1)}$

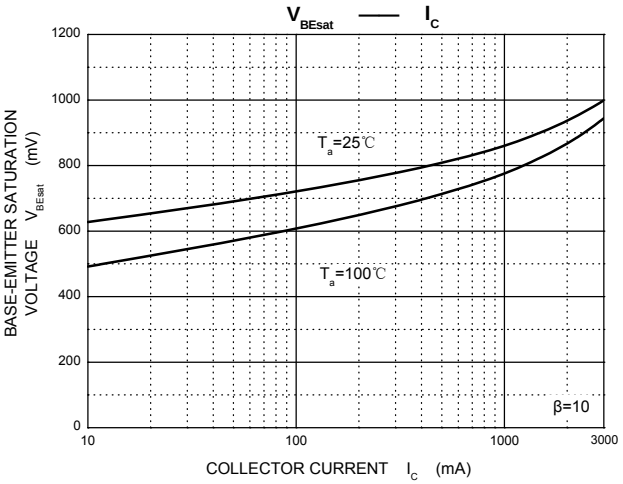
Rank	O	Y
Range	60-120	100-200

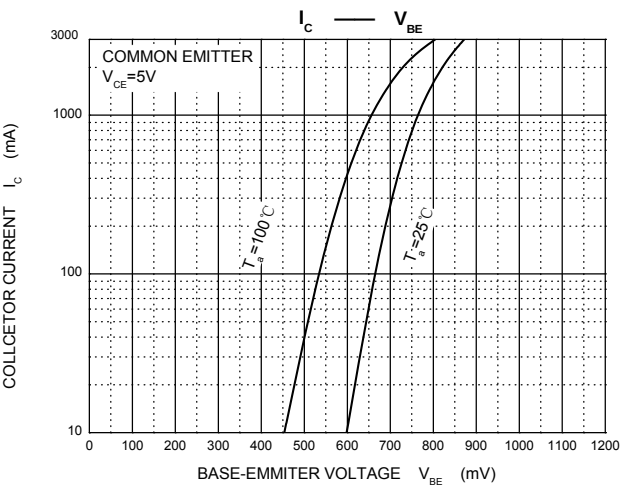
Typical Characteristics

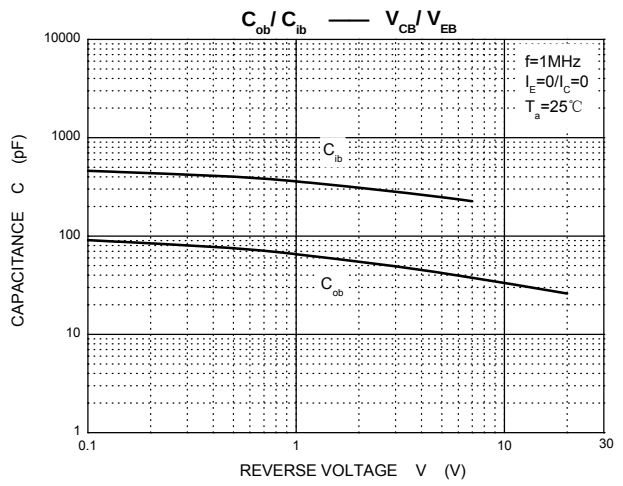


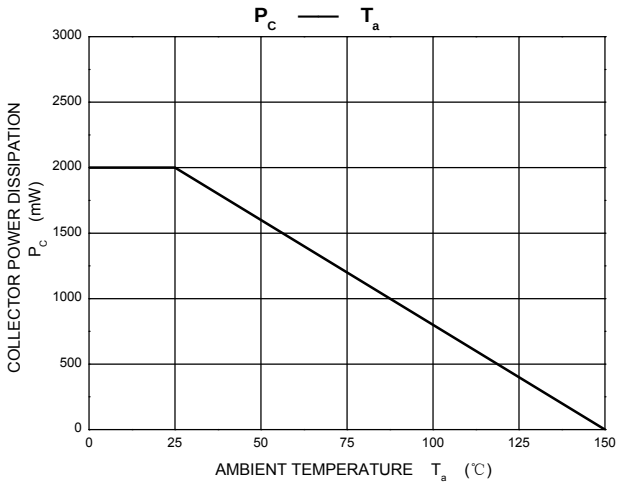




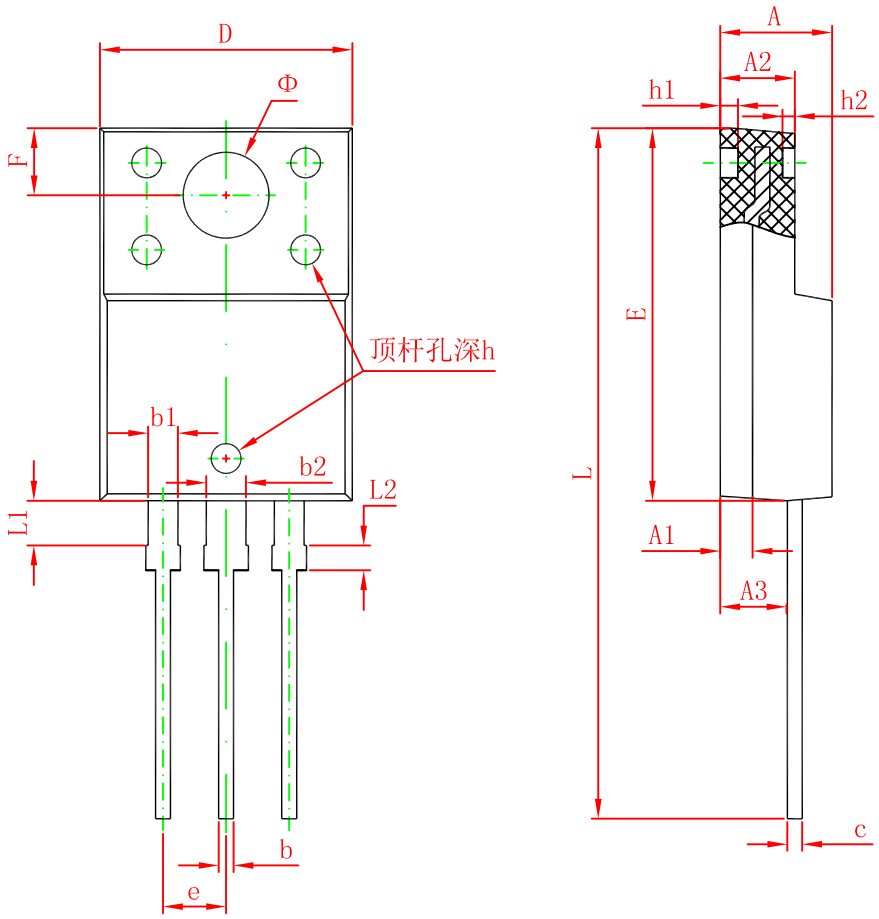








TO-220F Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.300	4.700	0.169	0.185
A1	1.300 REF.		0.051 REF.	
A2	2.800	3.200	0.110	0.126
A3	2.500	2.900	0.098	0.114
b	0.500	0.750	0.020	0.030
b1	1.100	1.350	0.043	0.053
b2	1.500	1.750	0.059	0.069
c	0.500	0.750	0.020	0.030
D	9.960	10.360	0.392	0.408
E	14.800	15.200	0.583	0.598
e	2.540 TYP.		0.100 TYP.	
F	2.700 REF.		0.106 REF.	
Φ	3.500 REF.		0.138 REF.	
h	0.000	0.300	0.000	0.012
h1	0.800 REF.		0.031 REF.	
h2	0.500 REF.		0.020 REF.	
L	28.000	28.400	1.102	1.118
L1	1.700	1.900	0.067	0.075
L2	0.900	1.100	0.035	0.043