

/ Descriptions

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

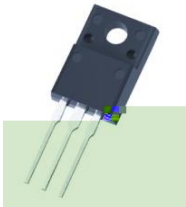
/ Features

V_{CESAT}
High DC current gain ,low collector saturation voltage.

/ Applications

For power amplification.

/ Equivalent Circuit



PIN1 Base PIN 2 Collector PIN 3 Emitter

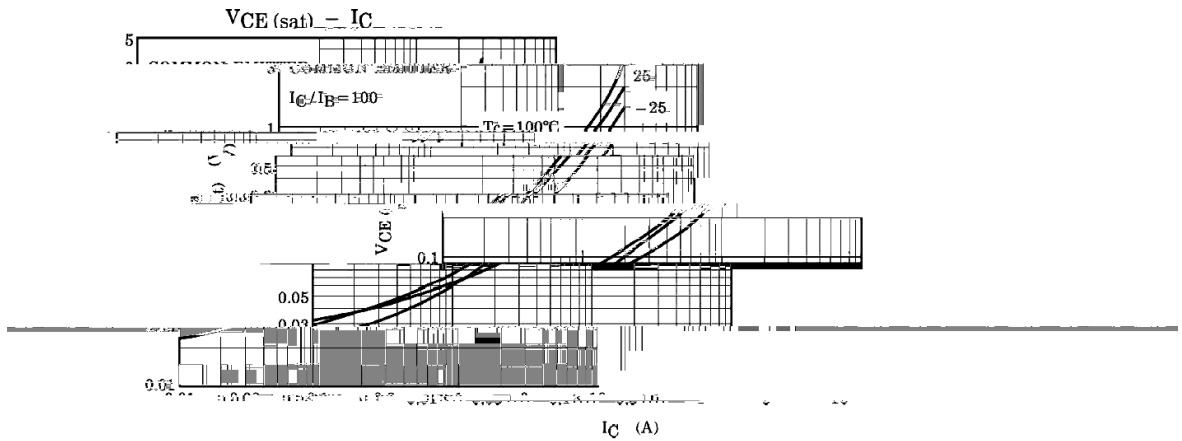
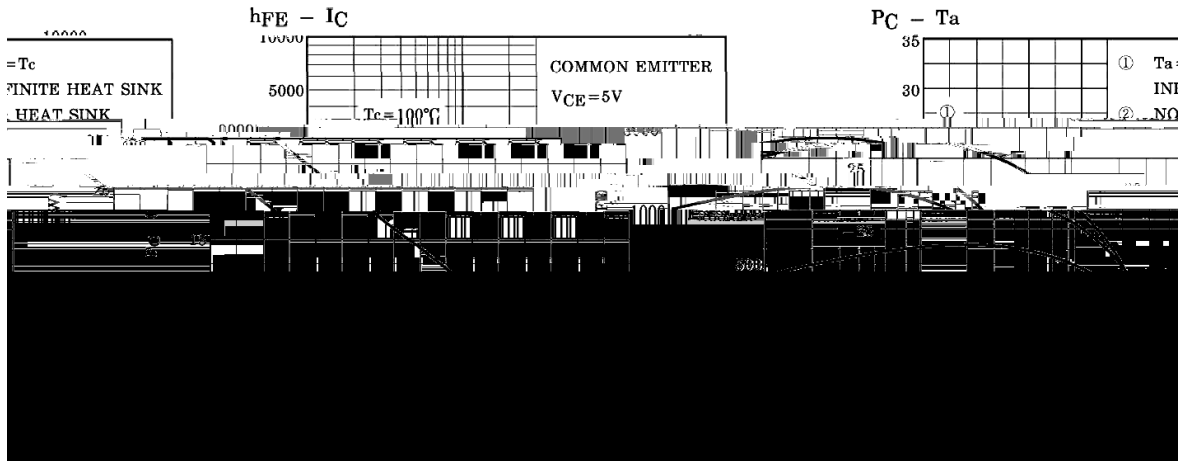
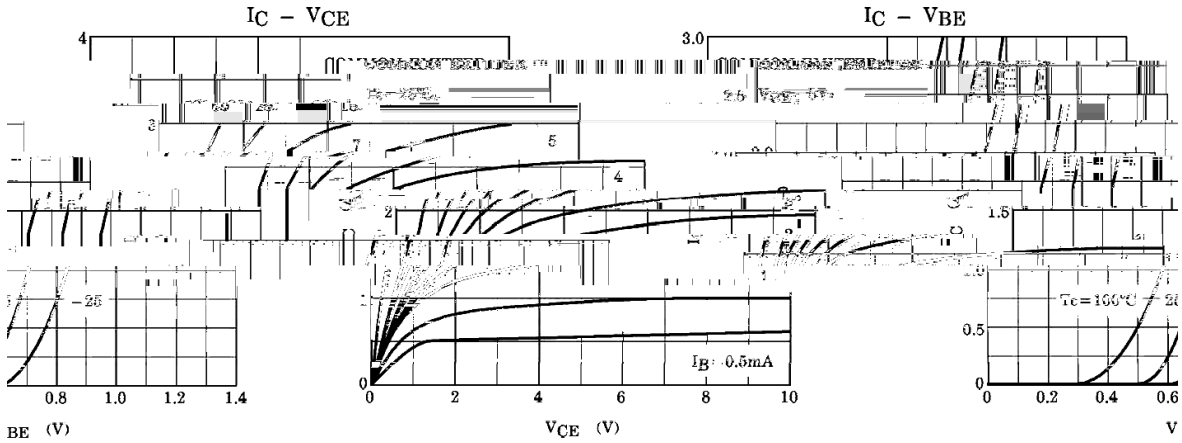
/ h_{FE} Classifications & Marking

See Marking Instructions.

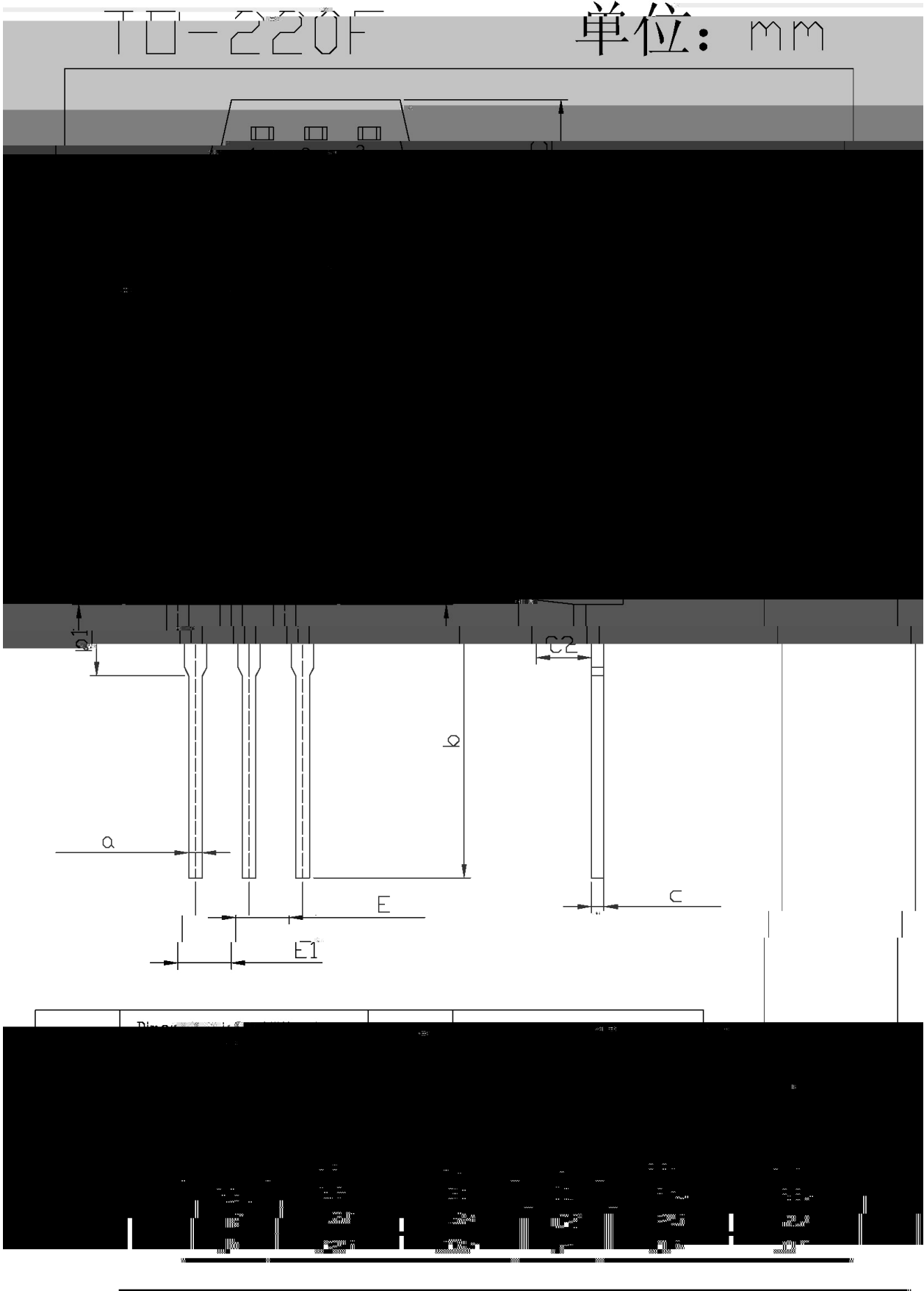
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	60	V
Collector to Emitter Voltage	V_{CEO}	60	V
Emitter to Base Voltage	V_{EBO}	7.0	V
Collector Current - Continuous	I_C	3.0	A
Collector Current – Continuous(Pulse)	I_{CP}	6.0	A
Base Current	I_B	0.6	A
Collector Power Dissipation	P_C	2.0	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=50mA$ $I_B=0$	60			V
Base to Emitter Voltage	V_{BE}	$V_{CE}=5V$ $I_C=0.5A$		0.7	1.0	V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=60V$ $I_E=0$			100	A
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=6.0V$ $I_C=0$			100	A
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5.0V$ $I_C=0.2A$	800		3200	
	$h_{FE(2)}$	$V_{CE}=5.0V$ $I_C=1.5A$	350			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1.0A$ $I_B=10mA$		0.4	1.0	V
Transition Frequency	f_T	$V_{CE}=5.0V$ $I_C=0.5A$		18		MHz

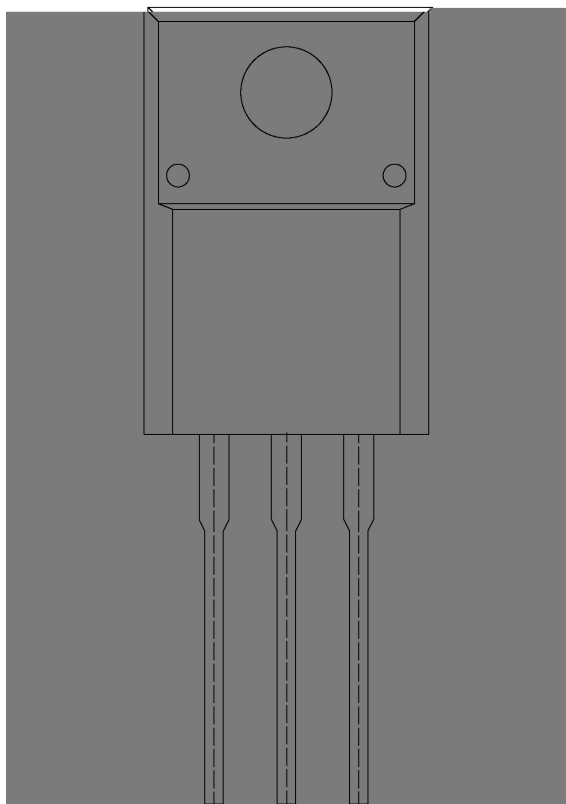
/ Electrical Characteristic Curve



/ Package Dimensions

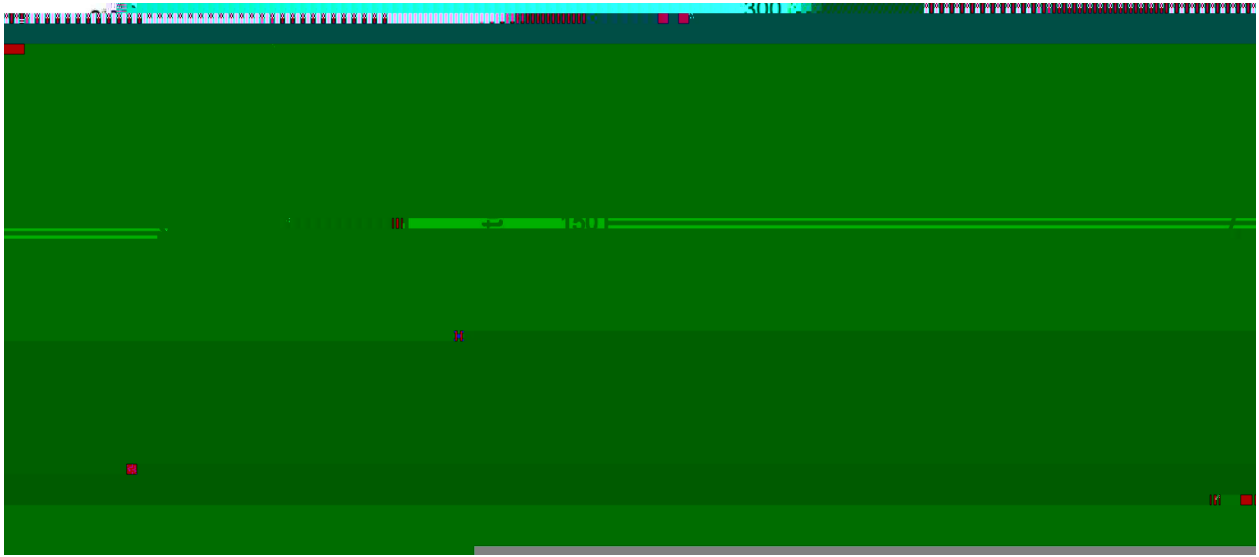


/ Marking Instructions



BR
D2353

() / Temperature Profile for Dip Soldering(Pb-Free)



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

Note:

5		e	255±
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