

**/ Descriptions**

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

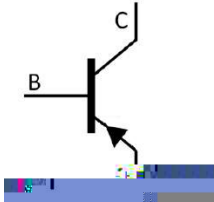
**/ Features**

Complements the 2SC4596  
Low  $V_{CE(sat)}$ , excellent DC current gain characteristics, wide SOA, fast speed switching, complements the 2SC4596.

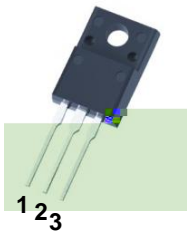
**/ Applications**

High speed switching applications.

**/ Equivalent Circuit**



**/ Pinning**



PIN1 Base          PIN 2 Collector          PIN 3 Emitter

**/  $h_{FE}$  Classifications & Marking**

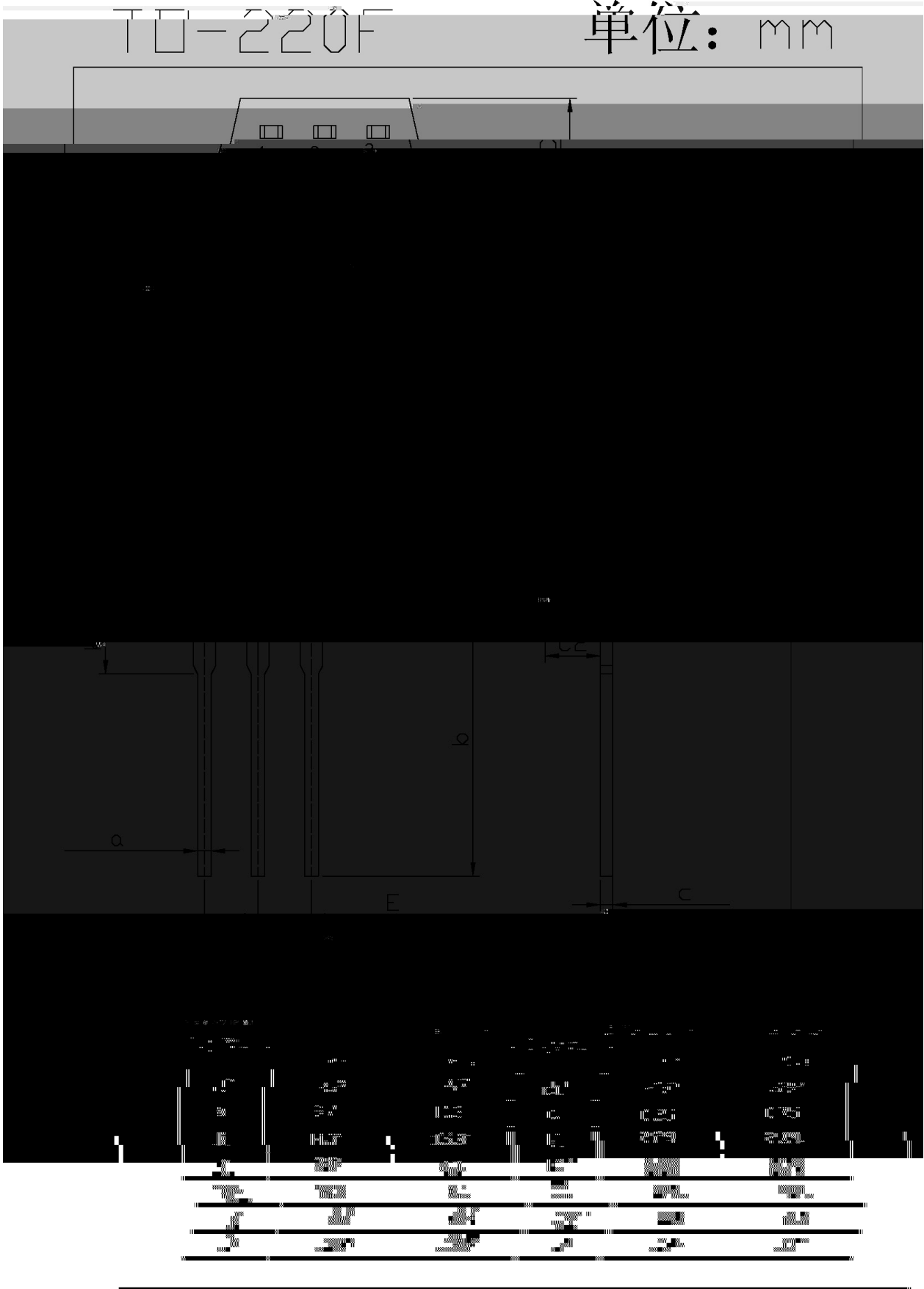
$h_{FE}$ Classifications Symbol	D	E	F
$h_{FE}$ Range	60 120	100 200	160 320

**/ Absolute Maximum Ratings(Ta=25 )**

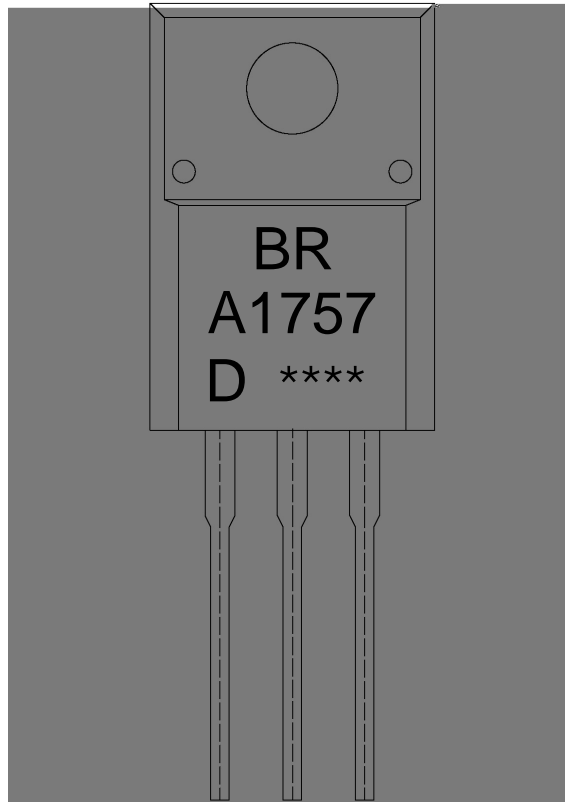
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	-100	V
Collector to Emitter Voltage	$V_{CEO}$	-60	V
Emitter to Base Voltage	$V_{EBO}$	-5.0	V
Collector Current - Continuous	$I_C$	-5.0	A
Collector Current – Continuous(Pulse)	$I_{CP}$	-10	A
Collector Power Dissipation	$P_C$	2.0	W
Collector Power Dissipation	$P_C(T_C=25 )$	25	W
Junction Temperature	$T_j$	150	
Storage Temperature Range	$T_{stg}$	-55 150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	$V_{CBO}$	$I_C=-50 A \quad I_E=0$	-100			V
Collector to Base Breakdown Voltage	$V_{CEO}$	$I_C=-1.0mA \quad I_B=0$	-60			V
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=-50 A \quad I_C=0$	-5.0			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=-100V \quad I_E=0$			-10	A
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=-5.0V \quad I_C=0$			-10	A
DC Current Gain	$h_{FE}$	$V_{CE}=-2.0V \quad I_C=-1.0A$	60		320	
Collector to Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=-3.0A \quad I_B=-0.15A$			-0.3	V
	$V_{CE(sat)(2)}$	$I_C=-4.0A \quad I_B=-0.2A$			-0.5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)(1)}$	$I_C=-3.0A \quad I_B=-0.15A$			-1.2	V
	$V_{BE(sat)(2)}$	$I_C=-4.0A \quad I_B=-0.2A$			-1.5	V
Transition Frequency	$f_T$	$V_{CE}=-10V \quad I_E=0.5A$ $f=30MHz$		80		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=-10V \quad I_E=0A$ $f=1.0MHz$		130		pF
Turn-On Time	$t_{on}$	$V_{CC}=-30V \quad I_C=-3A$ $R_L=10$ $I_{B1}=-I_{B2}=-0.15A$			0.3	s
Fall Time	$t_f$				0.3	s
Storage Time	$t_{stg}$				1.5	s

/ Package Dimensions



/ Marking Instructions



BR

A1757

D:  $h_{FE}$

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Note:

BR: Company Code.

A1757: Product Type.

D:  $h_{FE}$  Classifications Symbol

\*\*\*\*: Lot No. Code, code change with Lot No.

