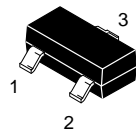


RoHS Compliant Product

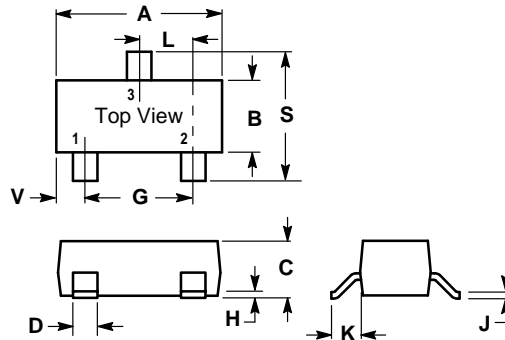
A suffix of "-C" specifies halogen & lead-free

● **FEATURES**

- Power Dissipation  
 $P_{CM}$ : 0.2 W (  $T_a = 25\text{ }^\circ\text{C}$  )
- Collector Current  
 $I_{CM}$ : 0.15 A
- Collector-Base Voltage  
 $V_{(BR)CBO}$ : 60 V



- 1.BASE
- 2.EMITTER
- 3.COLLECTOR



SOT-23		
Dim	Min	Max
A	2.800	3.040
B	1.200	1.400
C	0.890	1.110
D	0.370	0.500
G	1.780	2.040
H	0.013	0.100
J	0.085	0.177
K	0.450	0.600
L	0.890	1.020
S	2.100	2.500
V	0.450	0.600
All Dimension in mm		

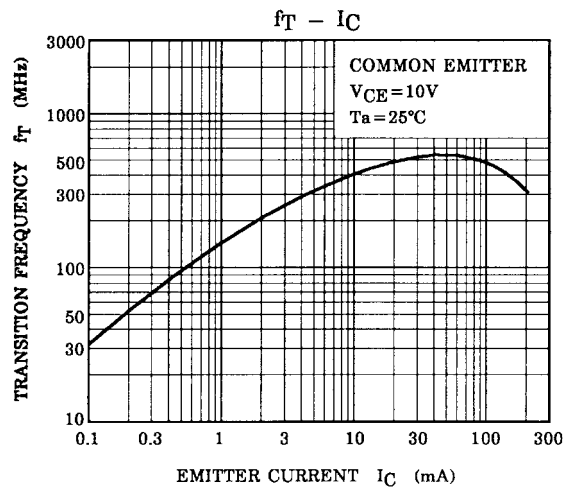
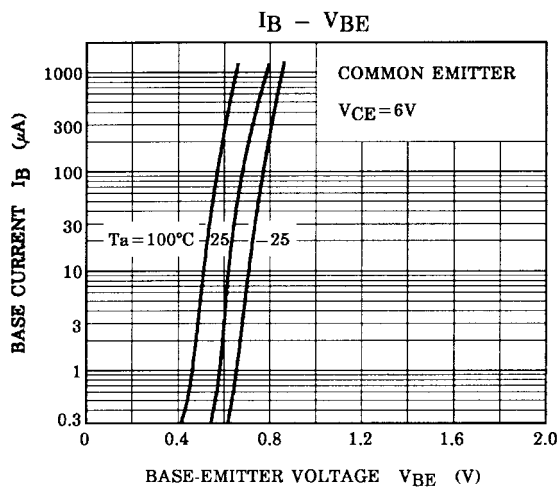
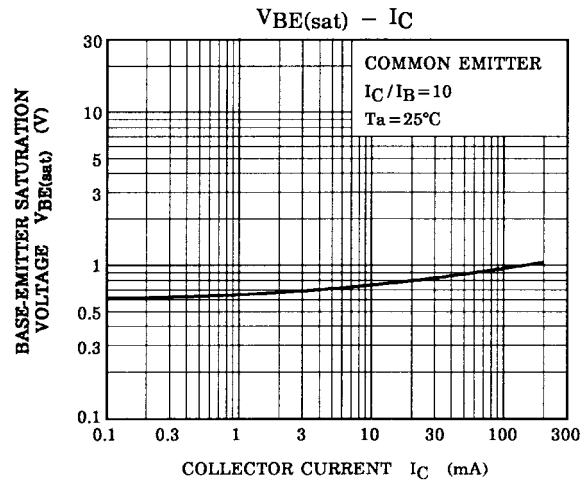
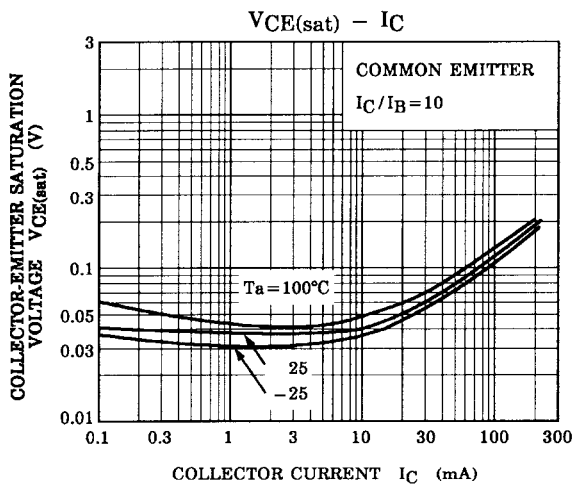
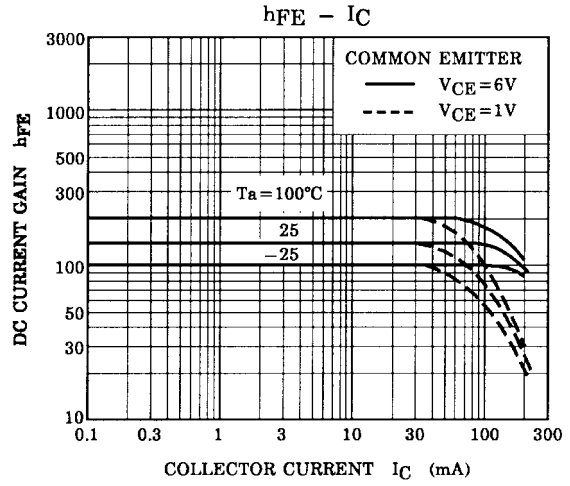
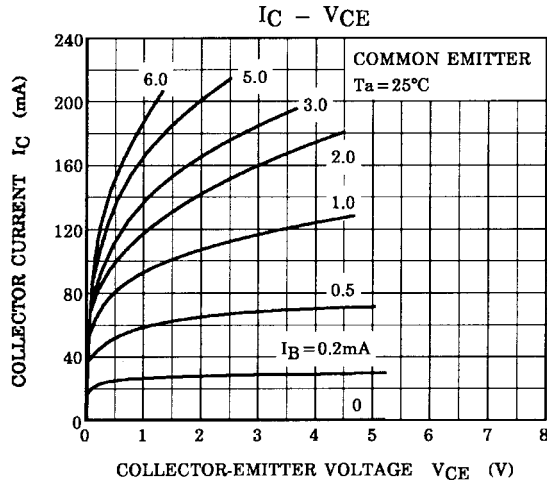
● **ABSOLUTE MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (  $T_a = 25\text{ }^\circ\text{C}$  )**

TYPE NUMBER	SYMBOL	TEST CONDITIONS	Min.	Typ.	Max.	UNIT
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\text{ }\mu\text{A}$ , $I_E = 0\text{ A}$	60	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 0.1\text{ mA}$ , $I_B = 0\text{ A}$	50	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\text{ }\mu\text{A}$ , $I_C = 0\text{ A}$	5	-	-	V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB} = 60\text{ V}$ , $I_E = 0\text{ A}$	-	-	0.1	$\mu\text{A}$
Collector Cut-Off Current	$I_{CEO}$	$V_{CE} = 50\text{ V}$ , $I_B = 0\text{ A}$	-	-	0.1	$\mu\text{A}$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB} = 5\text{ V}$ , $I_C = 0\text{ A}$	-	-	0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = 6\text{ V}$ , $I_C = 2\text{ mA}$	130	-	400	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100\text{ mA}$ , $I_B = 10\text{ mA}$	-	-	0.25	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 100\text{ mA}$ , $I_B = 10\text{ mA}$	-	-	1	V
Transition Frequency	$f_T$	$V_{CE} = 10\text{ V}$ , $I_C = 1\text{ mA}$ , $f = 30\text{ MHz}$	80	-	-	MHz
Operating and Storage Junction Temperature Range	$T_J$ , $T_{STG}$	-	- 55 ~ +150			$^\circ\text{C}$

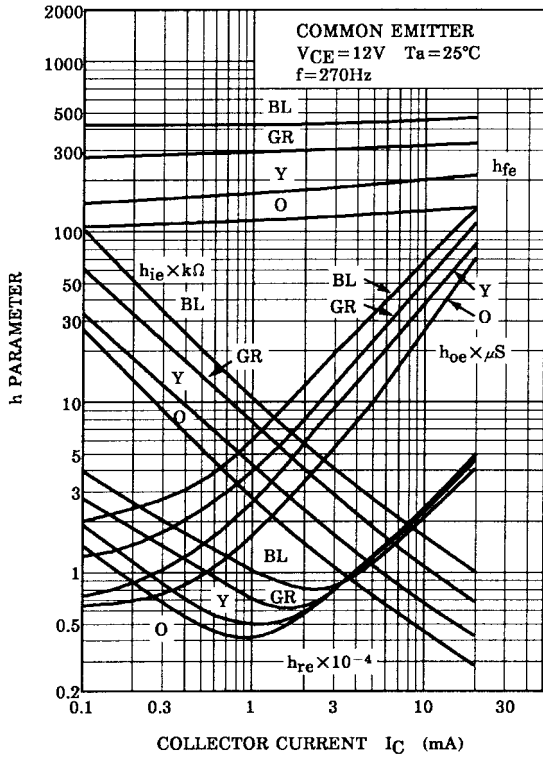
●  **$h_{FE}$  VALUES ARE CLASSIFIED AS FOLLOWS:**

Rank	L	H
$h_{FE}$	130 ~ 200	200 ~ 400

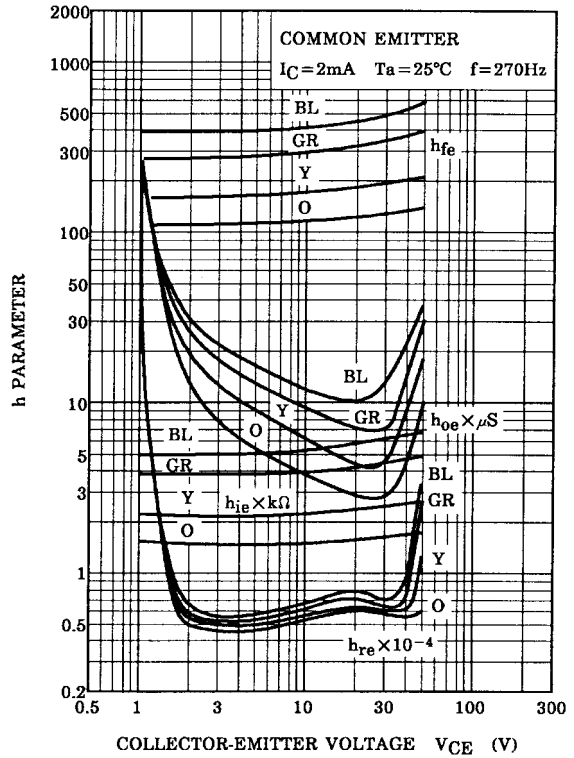
Marking: HF



h PARAMETER -  $I_C$



h PARAMETER -  $V_{CE}$



$P_C - T_a$

