

/ Descriptions

SOT-23 PNP Silicon PNP transistor in a SOT-23 Plastic Package.

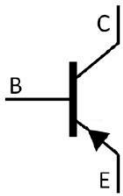
/ Features

h_{FE}
High h_{FE} and excellent h_{FE} linearity.

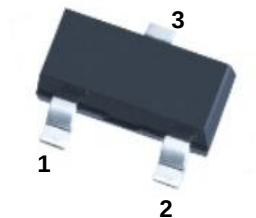
/ Applications

Driver stage of AF power amplifier.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Emitter PIN 3 Collector

/ h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	R	Q	P	K
h_{FE} Range	90~180	135~270	200~400	300~600
Marking	HDRR	HDRQ	HDRP	HDRK

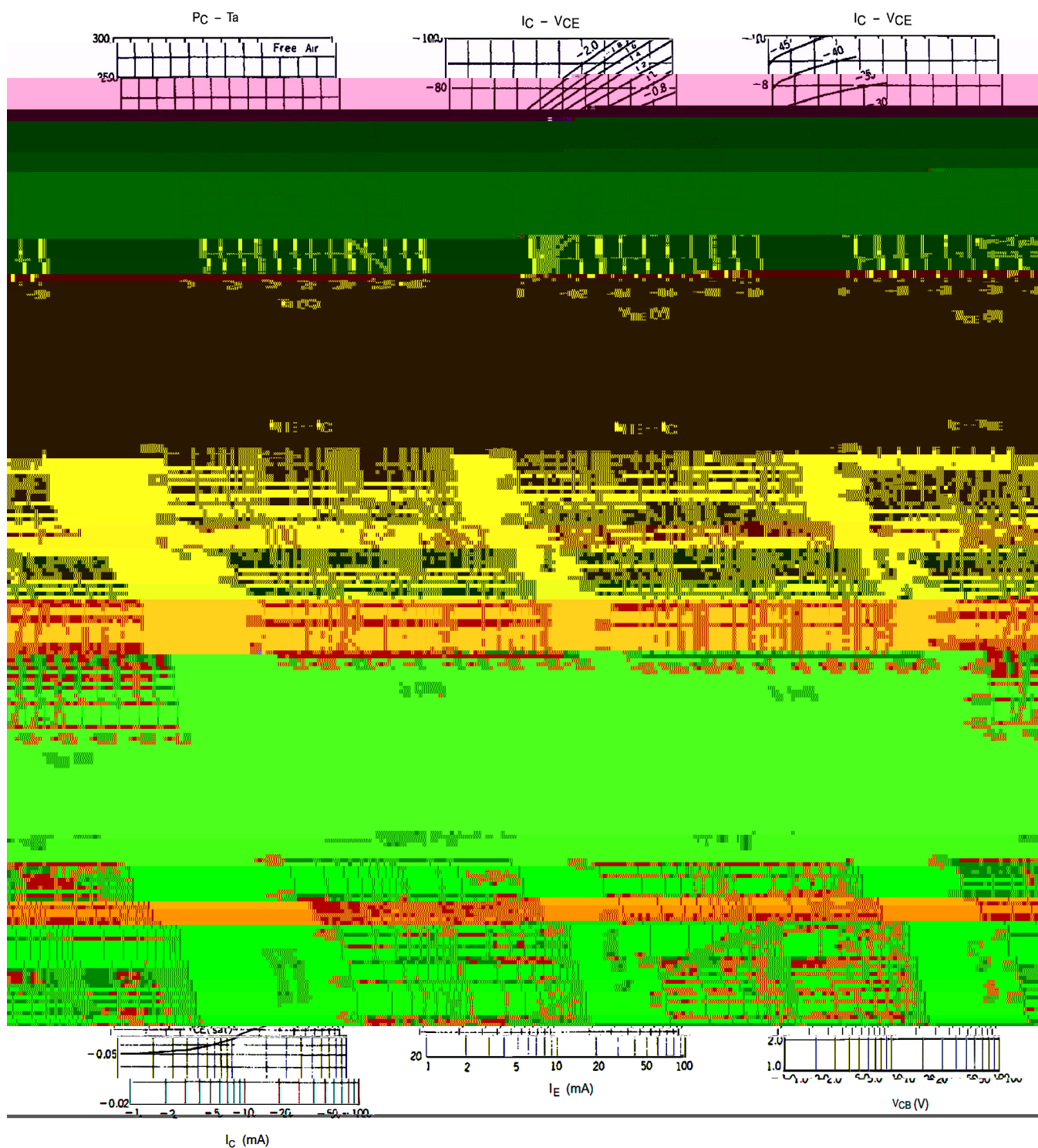
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-60	V
Collector to Emitter Voltage	V_{CEO}	-50	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current	I_C	-150	mA
Collector Base	I_B	-20	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

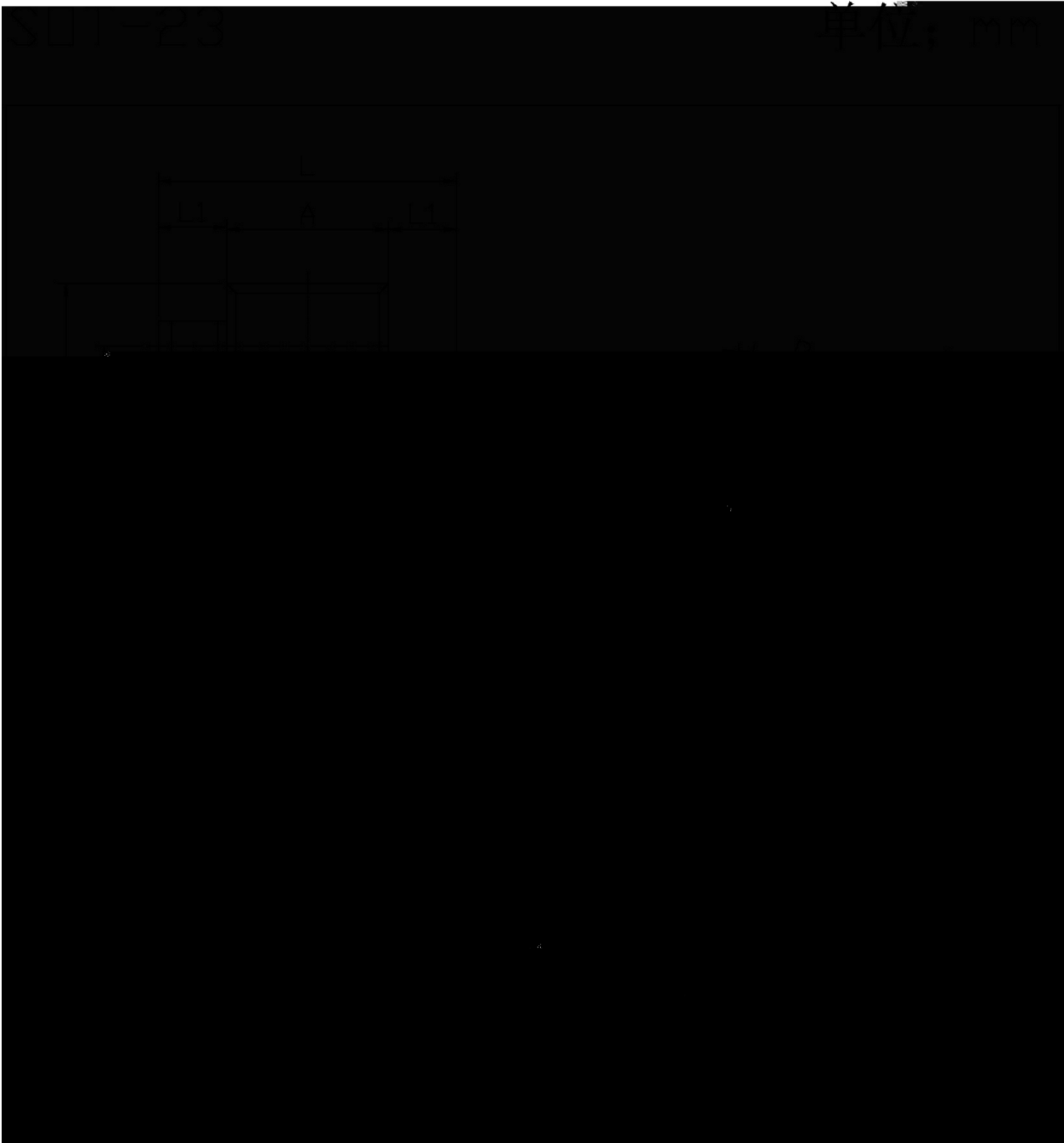
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-60V$ $I_E=0$			-0.1	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=-5.0V$ $I_C=0$			-0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=-6.0V$ $I_C=-1.0mA$	90		600	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-100mA$ $I_B=-10mA$		-0.18	-0.3	V
Collector to Base Voltage	V_{BE}	$V_{CE}=-6.0V$ $I_C=-1.0mA$	-0.55	-0.62	-0.65	V
Transition Frequency	f_T	$V_{CE}=-6.0V$ $I_C=-10mA$	100	180		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=-10V$ $f=1.0MHz$ $I_E=0$		4.5	6.0	pF
Noise Figure	NF	$V_{CE}=-6.0V$ $I_C=-0.3mA$ $f=100Hz$ $R_g=10k\Omega$		6.0	20	dB

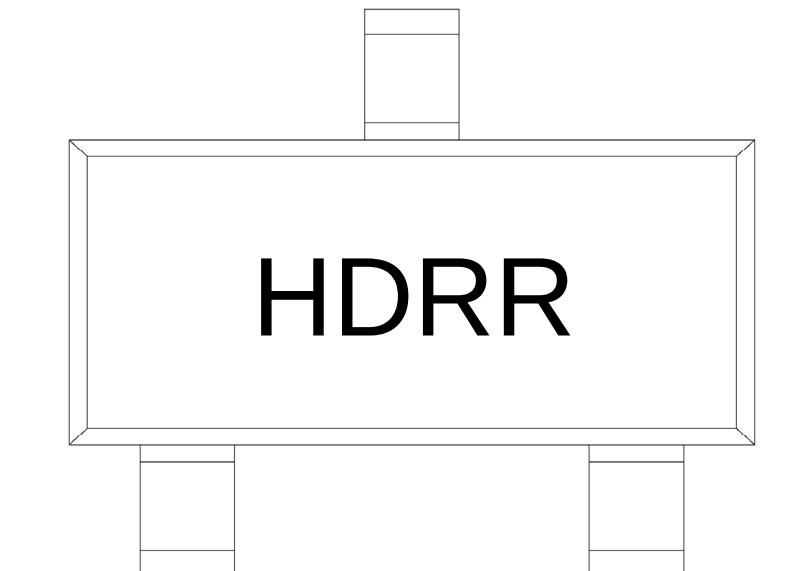
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



H

DR

R h_{FE}

Note:

H: Company Code.

DR: Product Type Code

R: h_{FE} Classifications Symbol Code

() /

