

## TRANSISTOR (NPN)

### FEATURES

- Excellent  $h_{FE}$  linearity
- High  $h_{FE}$
- Low Noise
- Complementary to KTA2014

### SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

### MAXIMUM RATINGS( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	50	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current -Continuous	150	mA
$P_C$	Collector Power Dissipation	100	mW
$T_j$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^{\circ}\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

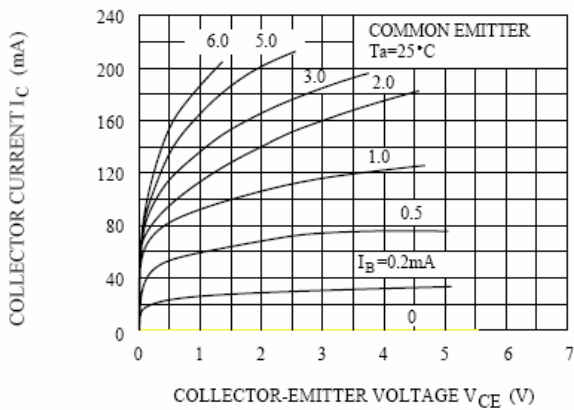
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E=0$	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B=0$	50		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C=0$	5		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=60\text{V}, I_E=0$		0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$		0.1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=6\text{V}, I_C=2\text{mA}$	70	700	
Collector-emitter saturation voltage	$V_{CEsat}$	$I_C=100\text{mA}, I_B=10\text{mA}$		0.25	V
Transition frequency	$f_T$	$V_{CE}=10\text{V}, I_C=1\text{mA}$	80		MHz
Collector output capacitance	$C_{ob}$	$V_{CE}=10\text{V}, I_E=0, f=1\text{MHz}$		3.5	pF
Noise figure	NF	$V_{CE}=6\text{V}, I_E=0.1\text{mA}, f=1\text{KHz}, R_G=10\text{K}\Omega$		10	dB

### CLASSIFICATION OF $h_{FE}$

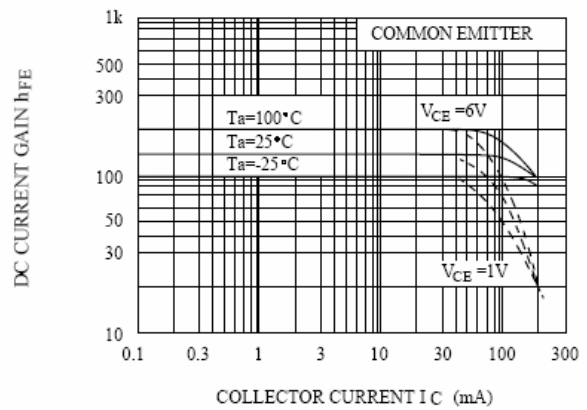
Rank	O	Y	GR	BL
Range	70~140	120~240	200~400	350~700
Marking	LO	LY	LGR	LBL

# Typical Characteristics

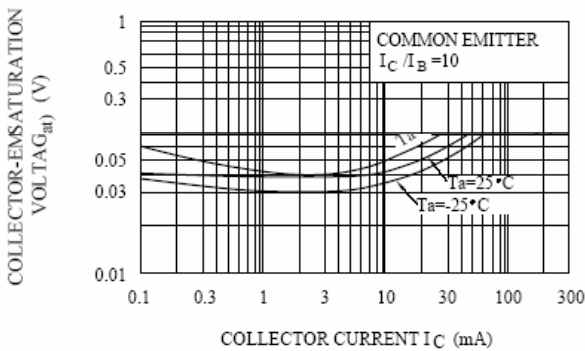
$I_C - V_{CE}$



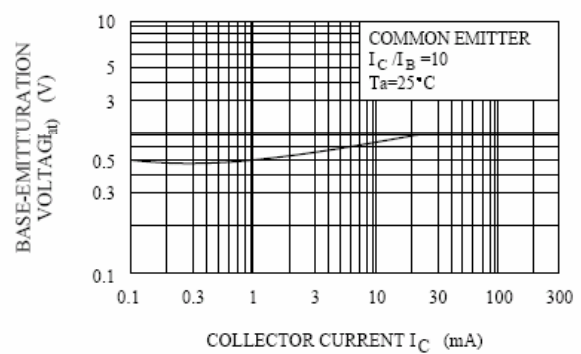
$h_{FE} - I_C$



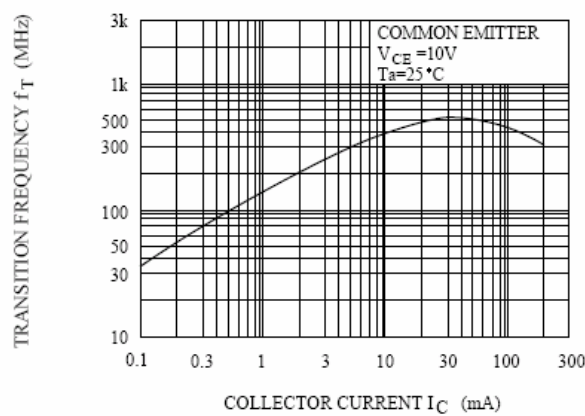
$V_{CE(sat)} - I_C$



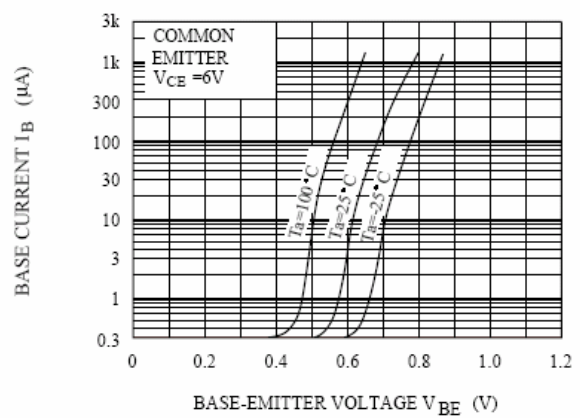
$V_{BE(sat)} - I_C$



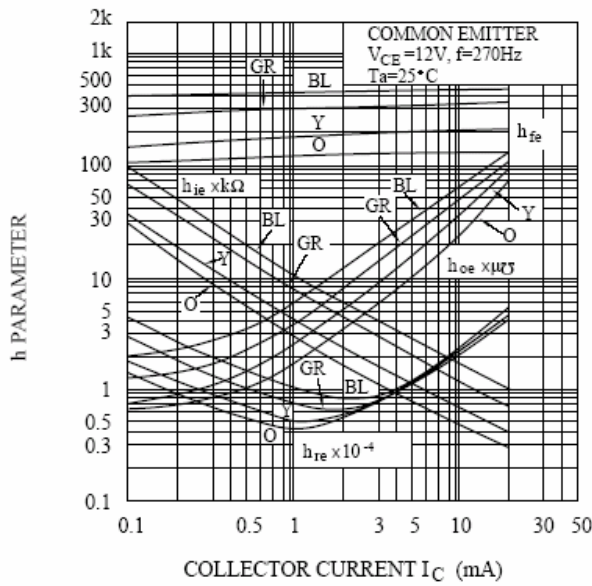
$f_T - I_C$



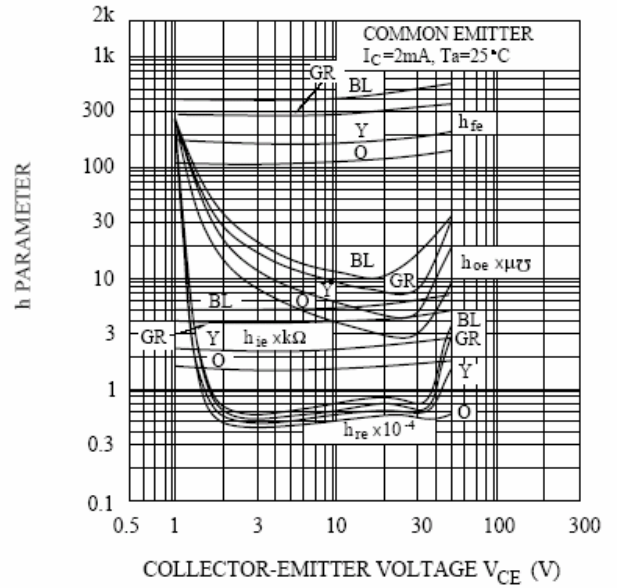
$I_B - V_{BE}$



h PARAMETER -  $I_C$



h PARAMETER -  $V_{CE}$



$P_c - T_a$

