

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)

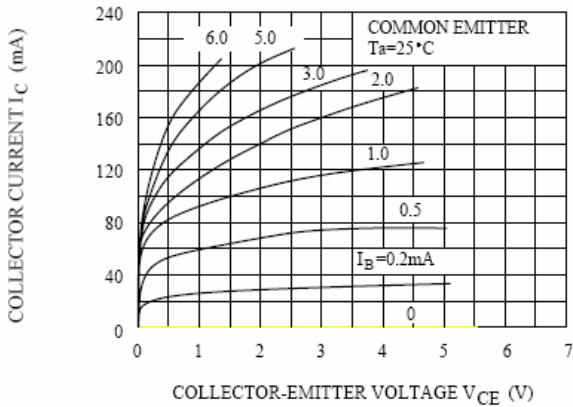
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E=0$	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B=0$	50		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C=0$	5		V
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$		0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$		0.1	μA
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}

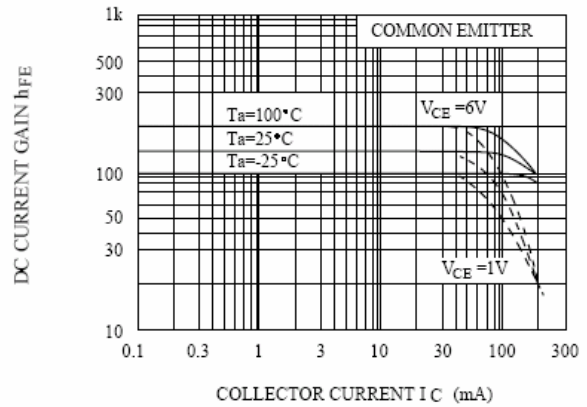
Rank	O	Y	GR	BL
Range	70~140	120~240	200~400	350~700
Marking	LO	LY	LGR	LBL

Typical Characteristics

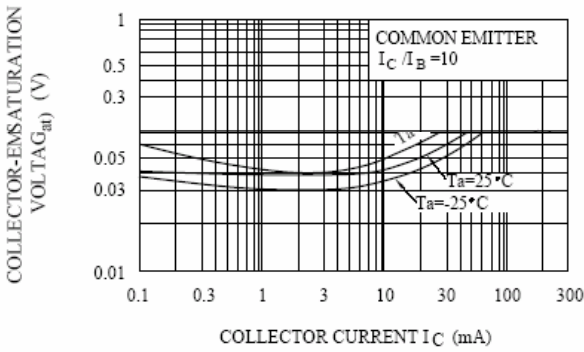
$I_C - V_{CE}$



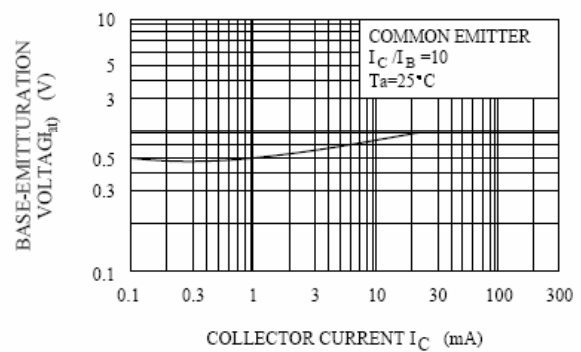
$h_{FE} - I_C$



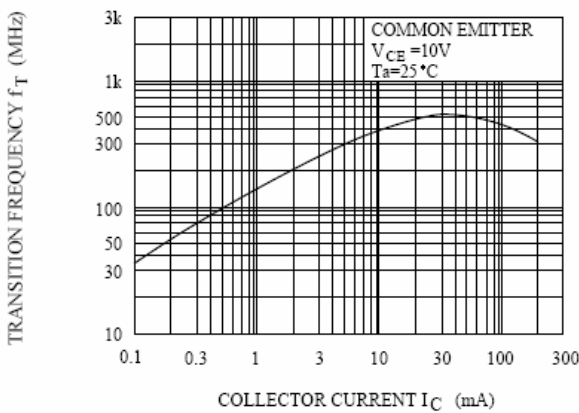
$V_{CE(sat)} - I_C$



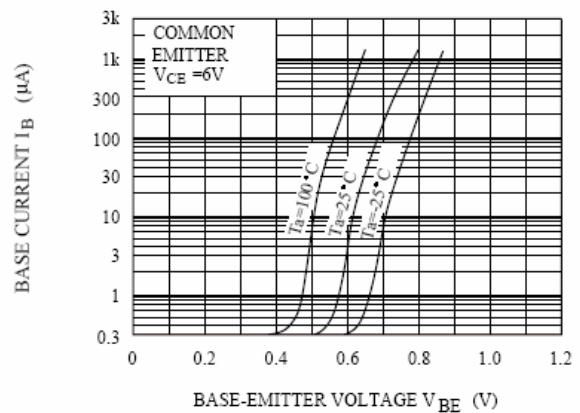
$V_{BE(sat)} - I_C$



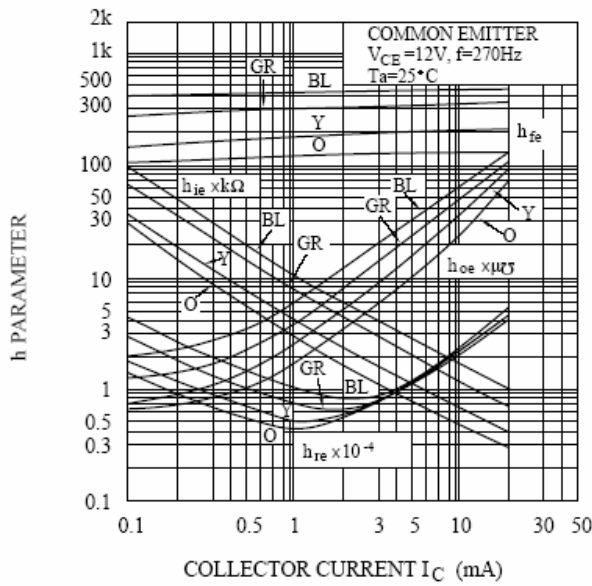
$f_T - I_C$



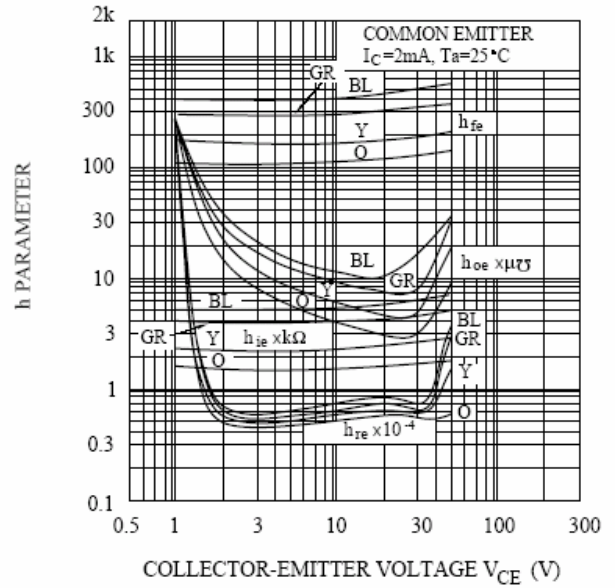
$I_B - V_{BE}$



h PARAMETER - I_C



h PARAMETER - V_{CE}



$P_c - T_a$

