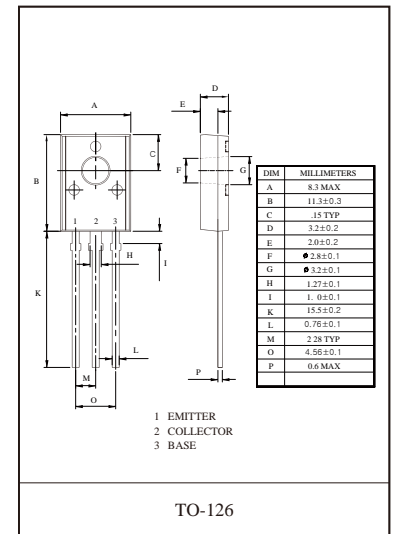


TRANSISTOR (NPN)

FEATURES

- Transceiver Driver Applications



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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	75	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	1	A
P_C	Collector Power Dissipation	0.75	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	167	$^{\circ}\text{C}/\text{W}$
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^{\circ}\text{C}$

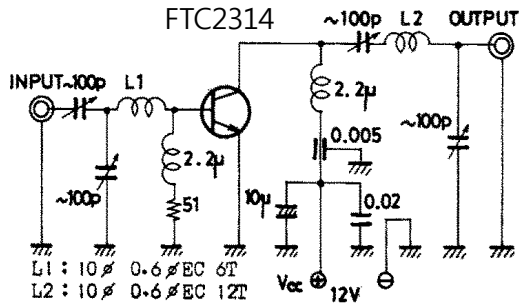
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	75			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=40\text{V}, I_E=0$			1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			1	μA
DC current gain	h_{FE}	$V_{CE}=5\text{V}, I_C=500\text{mA}$	60		320	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			1.2	V
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			25	pF
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=50\text{mA}$	180			MHz

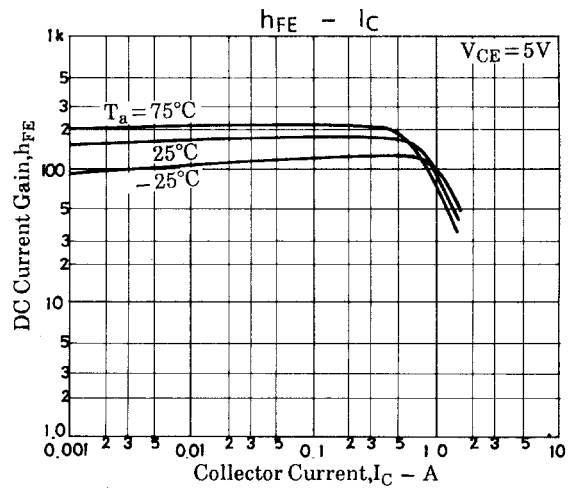
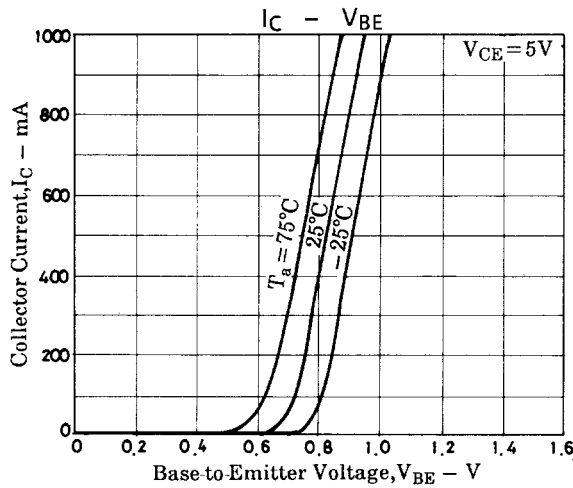
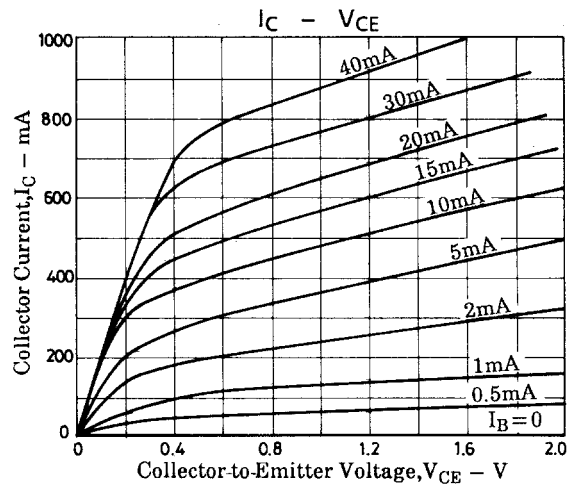
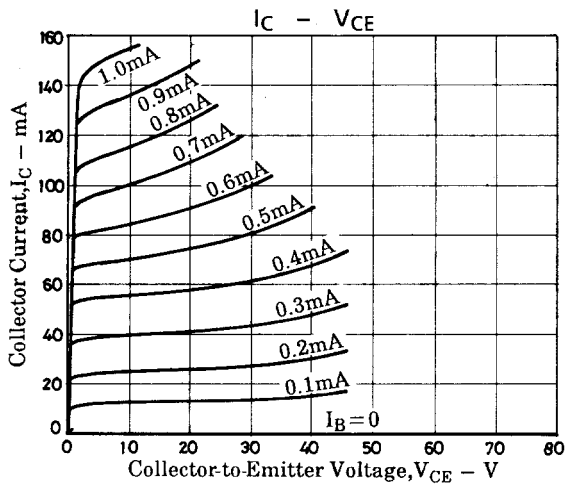
CLASSIFICATION OF h_{FE}

RANK	D	E	F
RANGE	60-120	100-200	160-320

Collector Efficiency Test Circuit



Unit (resistance : Ω , capacitance : F)





FTC2314

