

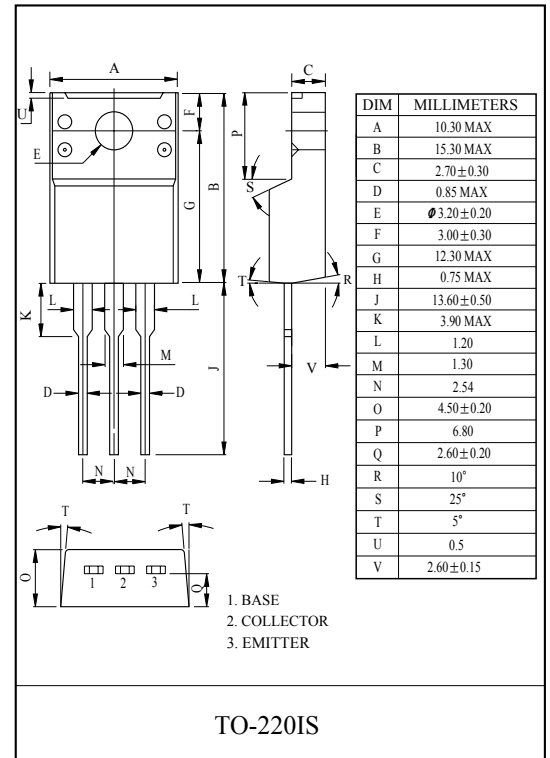
SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

FEATURES

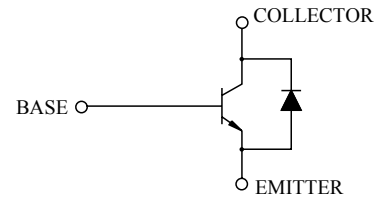
- High h_{FE} : $h_{FE}=500 \sim 1500$ ($I_C=0.5A$).
- Low Collector Saturation : $V_{CE(sat)}=0.35V(\text{Max.})$ ($I_C=1A$).

MAXIMUM RATING ($T_a=25^\circ\text{C}$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	100	V
Collector-Emitter Voltage		V_{CEO}	80	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current	DC	I_C	3	A
	Pulse	I_{CP}	5	
Base Current		I_B	1	A
Collector Power Dissipation	$T_a=25^\circ\text{C}$	P_C	2	W
	$T_c=25^\circ\text{C}$		25	
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	-55 ~ 150	$^\circ\text{C}$



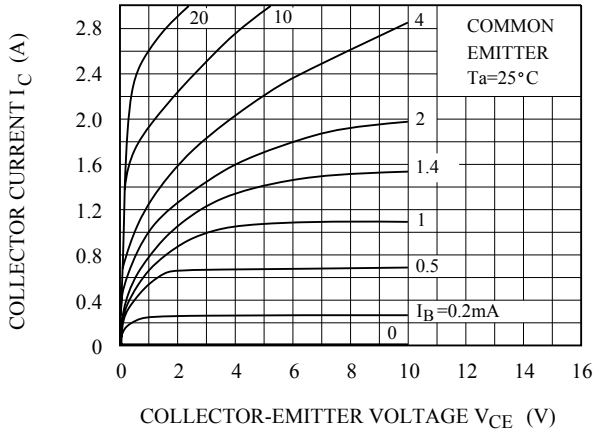
EQUIVALENT CIRCUIT



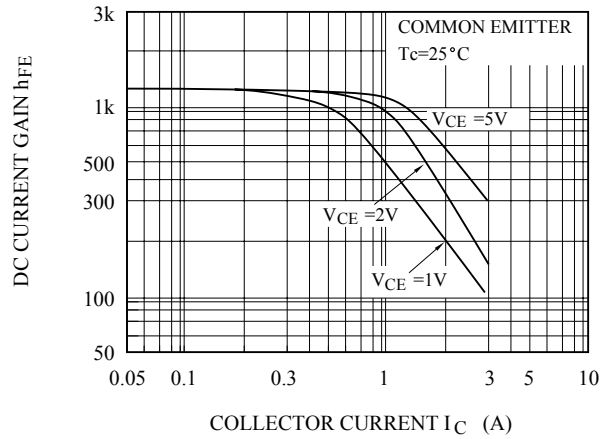
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB}=80V, I_E=0$	-	-	10	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB}=7V, I_C=0$	-	-	10	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C=50\text{mA}, I_B=0$	80	-	-	V
DC Current Gain		$h_{FE}(1)$	$V_{CE}=1V, I_C=0.5A$	500	-	1500	
		$h_{FE}(2)$	$V_{CE}=1V, I_C=1A$	150	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=1A, I_B=0.01A$	-	-	0.35	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C=1A, I_B=0.01A$	-	-	1.2	V
Collector-Emitter Forward Voltage		V_{ECF}	$I_E=3A, I_B=0$	-	-	2.5	V
Transition Frequency		f_T	$V_{CE}=5V, I_C=1A$	-	140	-	MHz
Collector Output Capacitance		C_{ob}	$V_{CE}=10V, I_E=0, f=1\text{MHz}$	-	30	-	pF
Switching Time	Turn-on Time	t_{on}	<p>$I_{B1}=I_{B2}=10\text{mA}$ DUTY CYCLE < 1%</p>	-	0.5	-	μS
	Storage Time	T_{stg}		-	5.0	-	
	Fall Time	t_f		-	0.7	-	

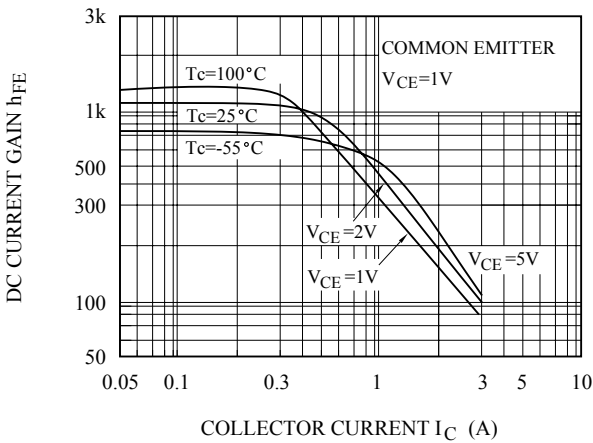
$I_C - V_{CE}$



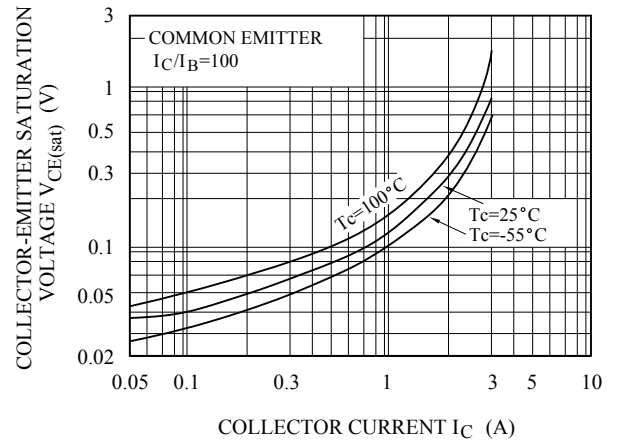
$h_{FE} - I_C$



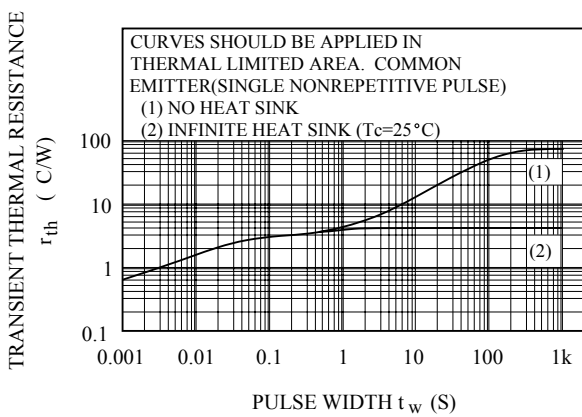
$h_{FE} - I_C$



$V_{CE(sat)} - I_C$



$r_{th} - t_w$



SAFE OPERATING AREA

