

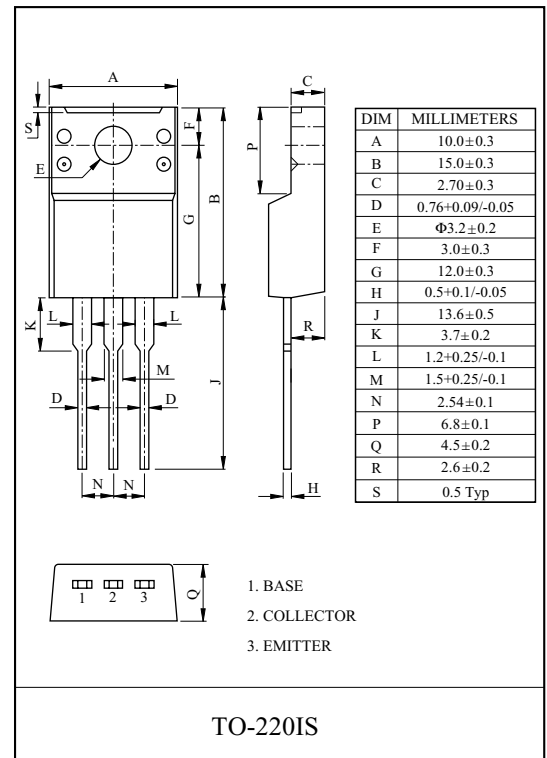
SWITCHING REGULATOR APPLICATION.
HIGH VOLTAGE SWITCHING APPLICATION.
HIGH SPEED DC-DC CONVERTER APPLICATION.

FEATURES

- Excellent Switching Times.
: $t_{on}=1.0\mu\text{s}(\text{Max.})$, $t_f=0.5\mu\text{s}(\text{Max.})$ at $I_C=1.5\text{A}$.
- High Collector Voltage : $V_{CEO}=400\text{V}$.

MAXIMUM RATING (Ta=25 °C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	500	V
Collector-Emitter Voltage		V_{CEO}	400	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current	DC	I_C	5	A
	Pulse	I_{CP}	10	
Base Current		I_B	2	A
Collector Power Dissipation (Tc=25 °C)		P_C	30	W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	-55 ~ 150	°C

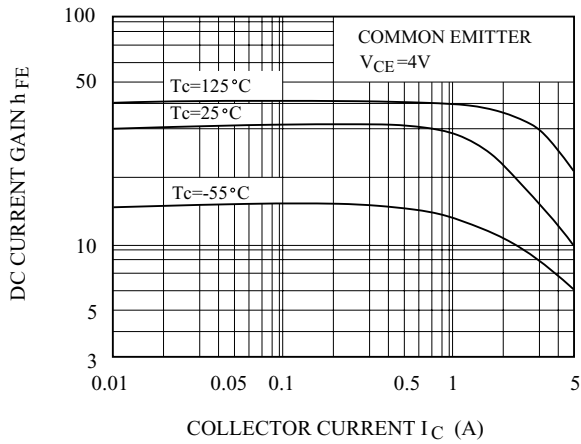


ELECTRICAL CHARACTERISTICS (Ta=25 °C)

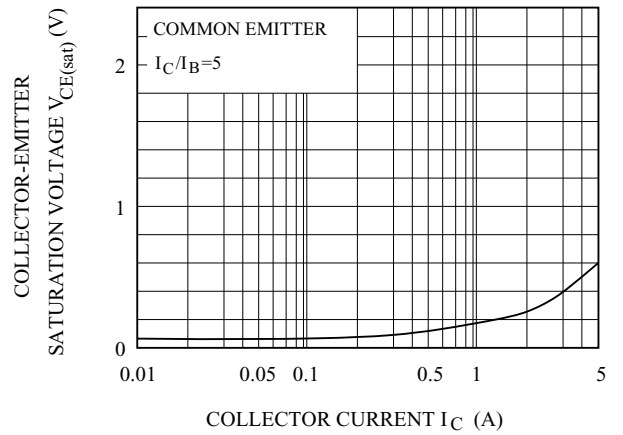
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB}=500\text{V}$, $I_E=0$	-	-	100	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB}=7\text{V}$, $I_C=0$	-	-	100	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C=10\text{mA}$, $I_B=0$	400	-	-	V
DC Current Gain		$h_{FE}(1)$	$V_{CE}=4\text{V}$, $I_C=0.1\text{A}$	20	-	-	
		$h_{FE}(2)$	$V_{CE}=4\text{V}$, $I_C=1.5\text{A}$	10	-	40	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=1.5\text{A}$, $I_B=0.3\text{A}$	-	-	0.5	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C=1.5\text{A}$, $I_B=0.3\text{A}$	-	-	1.0	V
Transition Frequency		f_T	$V_{CE}=12\text{V}$, $I_C=0.3\text{A}$	-	20	-	MHz
Switching Time	Turn-on Time	t_{on}	<p>$I_{B1}=0.15\text{A}$, $I_{B2}=-0.3\text{A}$ DUTY CYCLE $\leq 1\%$</p>	-	-	1.0	μs
	Storage Time	t_{stg}		-	-	2.5	
	Fall Time	t_f		-	-	0.5	

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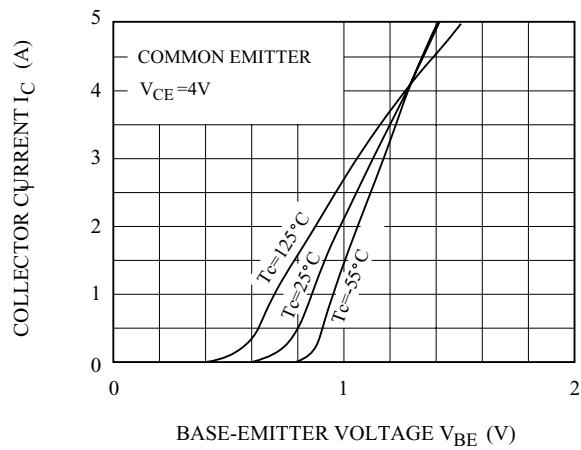
$h_{FE} - I_C$



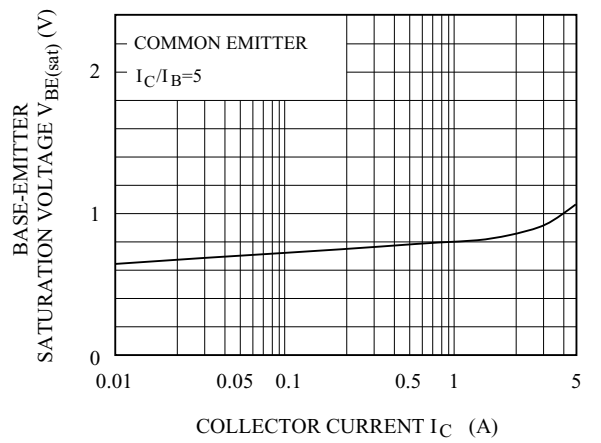
$V_{CE(sat)} - I_C$



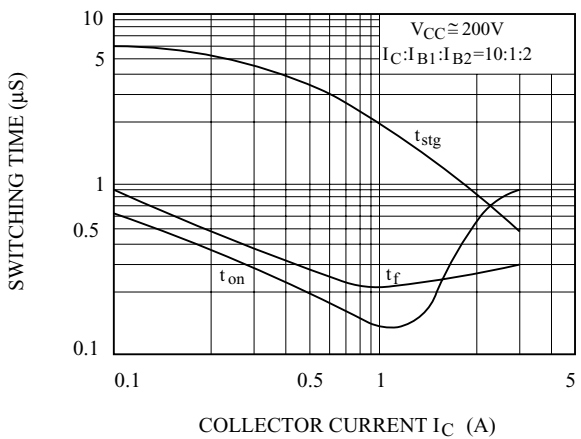
$I_C - V_{BE}$



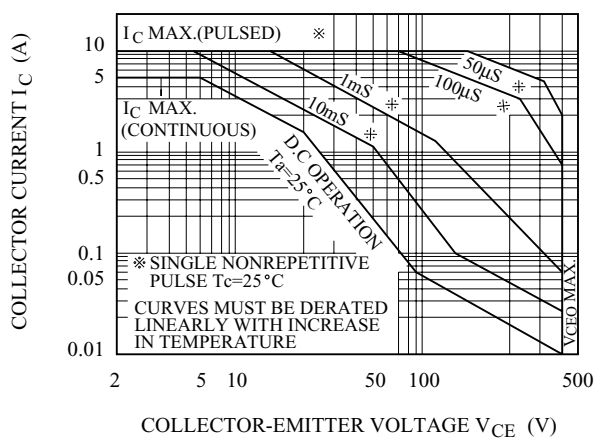
$V_{BE(sat)} - I_C$



SWITCHING CHARACTERISTICS



SAFE OPERATING AREA



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