

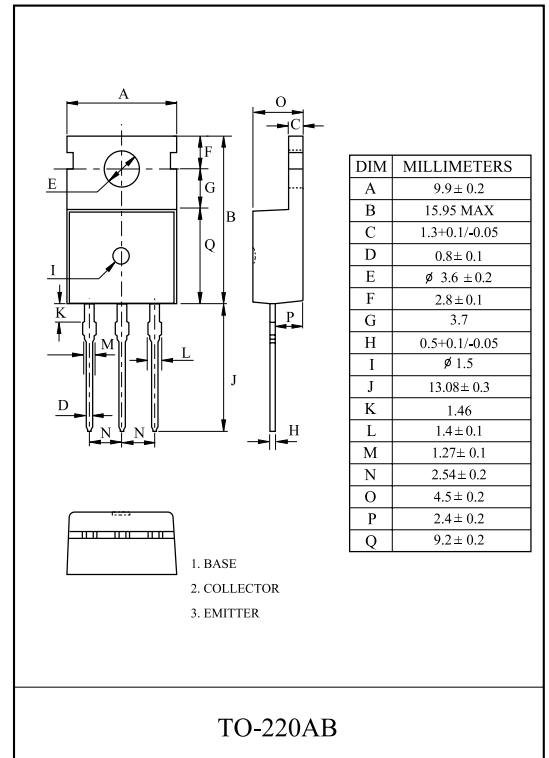
SWITCHING REGULATOR APPLICATION.
HIGH VOLTAGE SWITCHING APPLICATION.
HIGH SPEED DC-DC CONVERTER APPLICATION.

FEATURES

- Excellent Switching Times
: $t_{on}=1.6 \mu\text{s}(\text{Max.})$, $t_f=0.7 \mu\text{s}(\text{Max.})$, at $I_C=5\text{A}$
- High Collector Voltage : $V_{CBO}=700\text{V}$.

MAXIMUM RATING (Ta=25 °C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	700	V
Collector-Emitter Voltage		V_{CEO}	400	V
Emitter-Base Voltage		V_{EBO}	9	V
Collector Current	DC	I_C	8	A
	Pulse	I_{CP}	16	
Base Current		I_B	4	A
Collector Power Dissipation (Tc=25 °C)		P_C	80	W
Junction Temperature		T_j	150	
Storage Temperature Range		T_{stg}	-55 150	



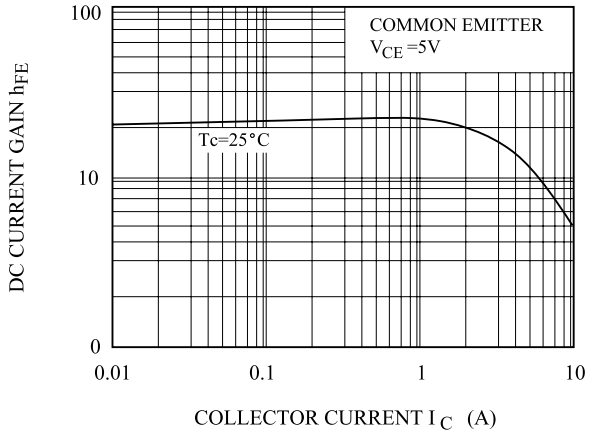
ELECTRICAL CHARACTERISTICS (Ta=25 °C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Emitter Cut-off Current	I_{EBO}	$V_{EB}=9\text{V}$, $I_C=0$	-	-	1	mA
DC Current Gain	$h_{FE(1)}$ (Note)	$V_{CE}=5\text{V}$, $I_C=2\text{A}$	15	-	39	
	$h_{FE(2)}$	$V_{CE}=5\text{V}$, $I_C=5\text{A}$	10	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2\text{A}$, $I_B=0.4\text{A}$	-	-	1	V
		$I_C=5\text{A}$, $I_B=1\text{A}$	-	-	2	
		$I_C=8\text{A}$, $I_B=2\text{A}$	-	-	3	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=2\text{A}$, $I_B=0.4\text{A}$	-	-	1.5	V
		$I_C=5\text{A}$, $I_B=1\text{A}$	-	-	1.6	
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$, $f=0.1\text{MHz}$, $I_E=0$	-	110	-	pF
Transition Frequency	f_T	$V_{CE}=10\text{V}$, $I_C=0.5\text{A}$	4	-	-	MHz
Turn-On Time	t_{on}	<p>$I_{B1}=I_{B2}=1\text{A}$ DUTY CYCLE ≤ 2%</p>	-	-	1.6	μs
Storage Time	t_{stg}		-	-	3	μs
Fall Time	t_f		-	-	0.7	μs

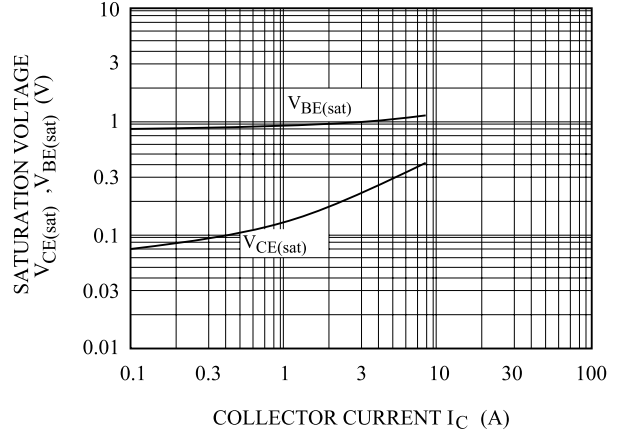
Note : h_{FE} Classification R:15 27, O:23 39

MJE13007

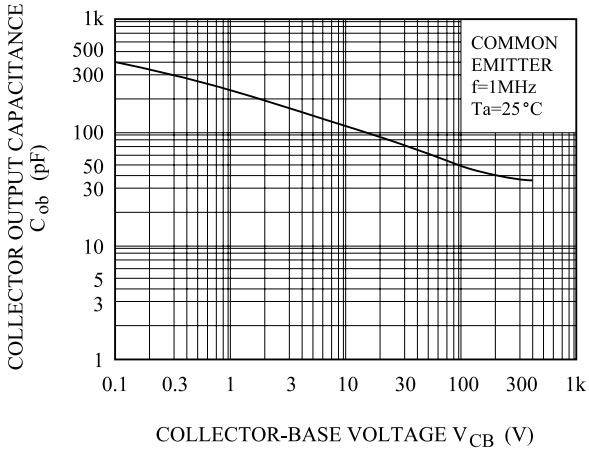
$h_{FE} - I_C$



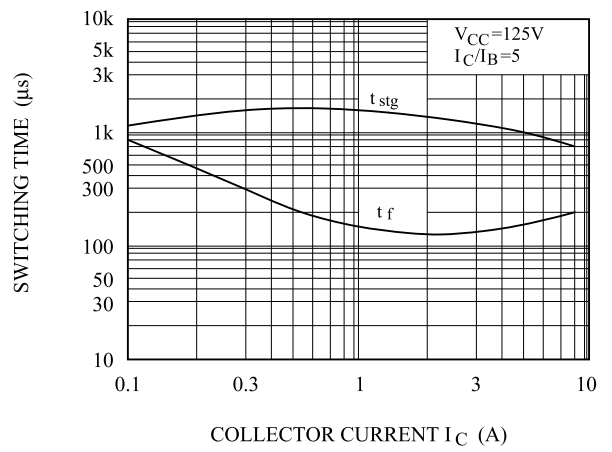
$V_{CE(sat)}, V_{BE(sat)} - I_C$



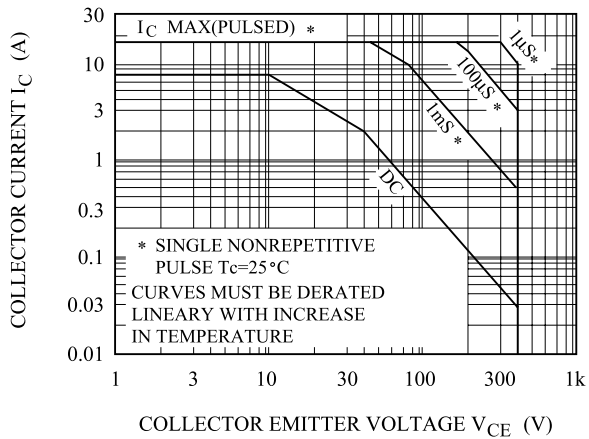
$C_{ob} - V_{CB}$



SWITCHING CHARACTERISTIC



SAFE OPERATING AREA



$P_C - T_a$

