

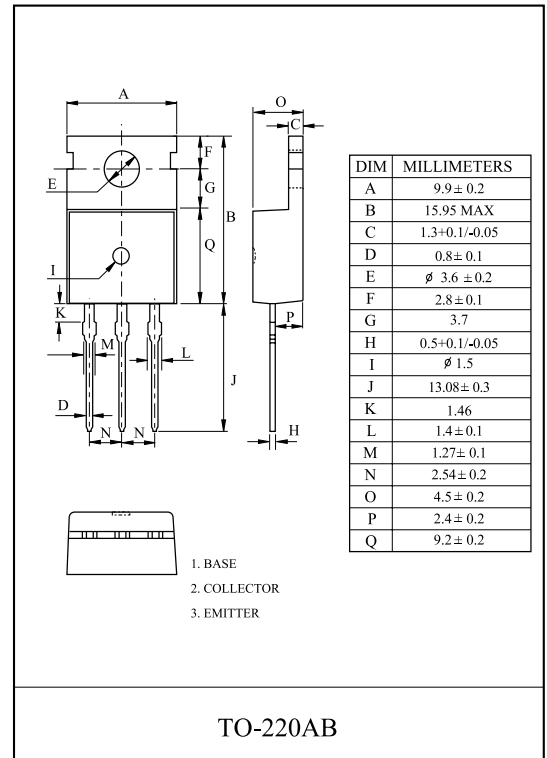
SWITCHING REGULATOR APPLICATION.
HIGH VOLTAGE SWITCHING APPLICATION.
HIGH SPEED DC-DC CONVERTER APPLICATION.
FLUORESCENT LIGHT BALLASTOR APPLICATION.

FEATURES

- Excellent Switching Times
: $t_{on}=0.8\mu S(\text{Max.})$, $t_f=0.9\mu S(\text{Max.})$, at $I_C=2A$
- High Collector Voltage : $V_{CBO}=700V$.

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	4	A
	Pulse	I_{CP}	8	
Base Current		I_B	2	A
Collector Power Dissipation (Tc=25 °C)		P_C	75	W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	-55 ~ 150	°C



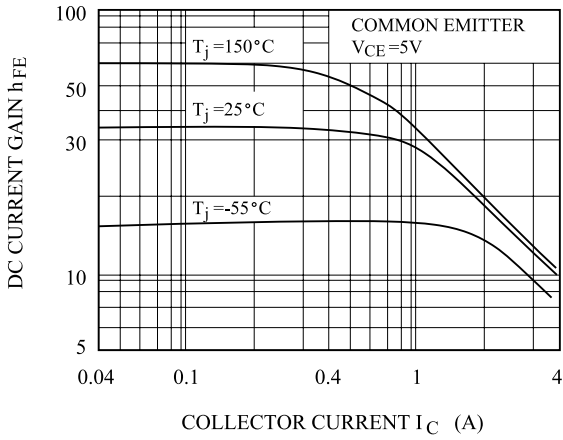
ELECTRICAL CHARACTERISTICS (Ta=25 °C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Emitter Cut-off Current	I_{EBO}	$V_{EB}=9V$, $I_C=0$	-	-	1	mA
DC Current Gain	$h_{FE}(1)$ (Note)	$V_{CE}=5V$, $I_C=1A$	18	-	35	
	$h_{FE}(2)$	$V_{CE}=5V$, $I_C=2A$	10	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1A$, $I_B=0.2A$	-	-	0.5	V
		$I_C=2A$, $I_B=0.5A$	-	-	0.6	
		$I_C=4A$, $I_B=1A$	-	-	1	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1A$, $I_B=0.2A$	-	-	1.2	V
		$I_C=2A$, $I_B=0.5A$	-	-	1.6	
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$, $f=0.1MHz$, $I_E=0$	-	65	-	pF
Transition Frequency	f_T	$V_{CE}=10V$, $I_C=0.5A$	4	-	-	MHz
Turn-On Time	t_{on}		-	-	0.8	µS
Storage Time	t_{stg}		-	-	4	µS
Fall Time	t_f		$I_{B1}=I_{B2}=0.4A$ DUTY CYCLE ≤ 2%	-	-	0.9

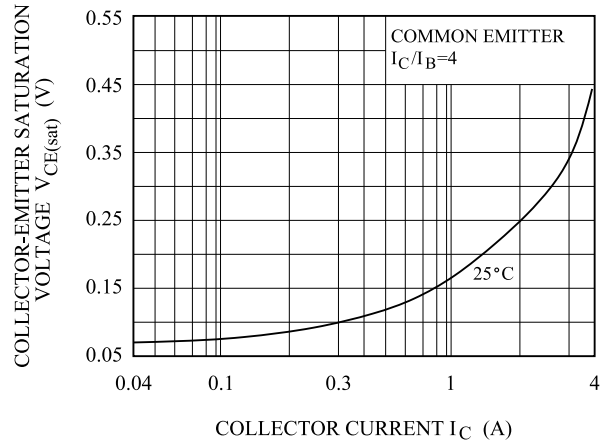
Note : h_{FE} Classification R:18 27, O:23 35

MJE13005

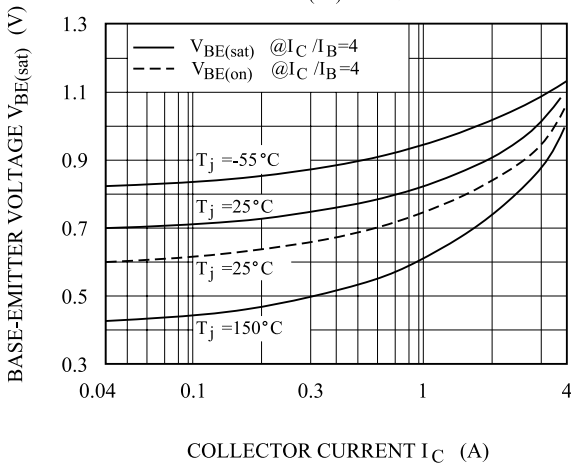
$h_{FE} - I_C$



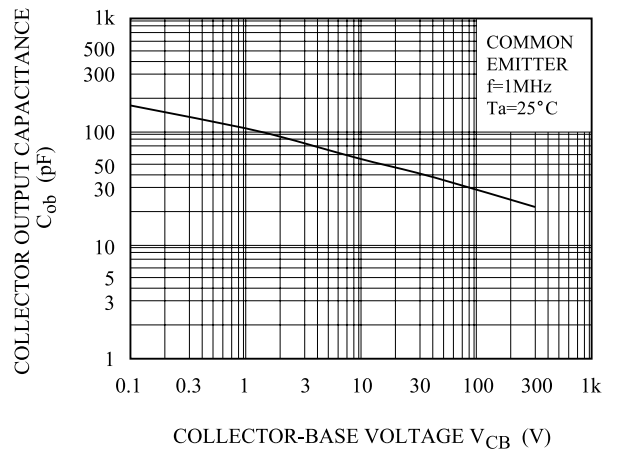
$V_{CE(sat)} - I_C$



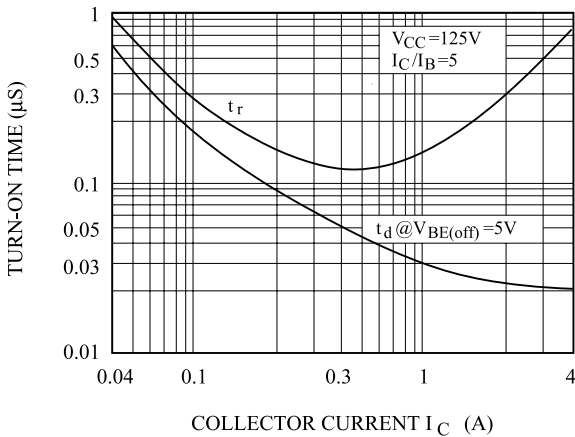
$V_{BE(sat)} - I_C$



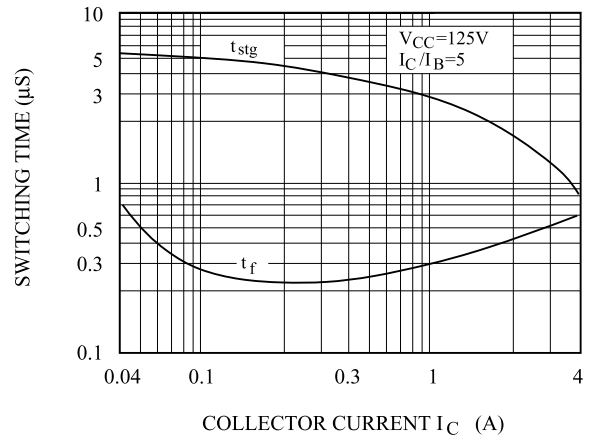
$C_{ob} - V_{CB}$



SWITCHING CHARACTERISTIC



SWITCHING CHARACTERISTIC



MJE13005

