

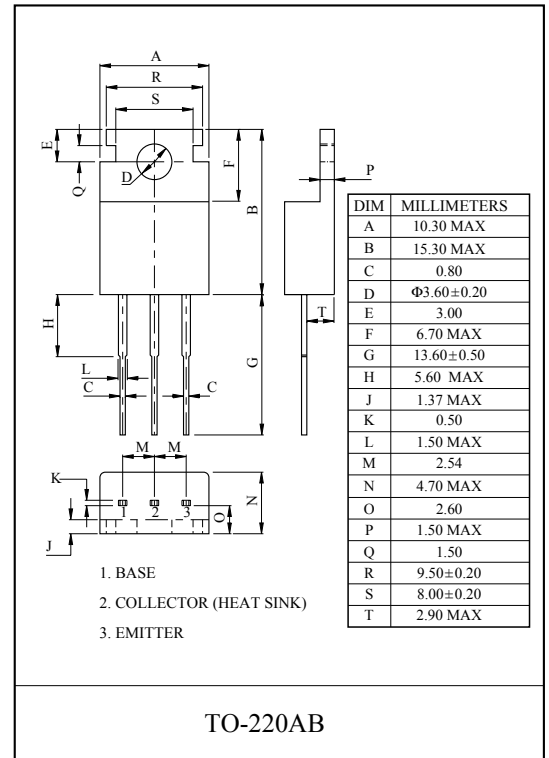
SWITCHING REGULATOR APPLICATION.  
HIGH VOLTAGE SWITCHING APPLICATION.  
HIGH SPEED DC-DC CONVERTER APPLICATION.  
FLUORESCENT LIGHT BALLASTOR APPLICATION.

### 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

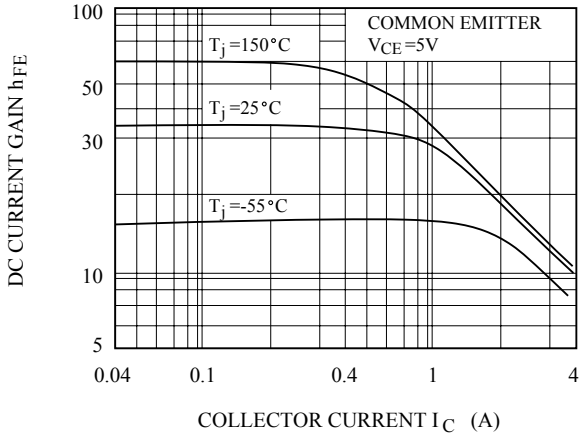


### ELECTRICAL CHARACTERISTICS (Ta=25°C)

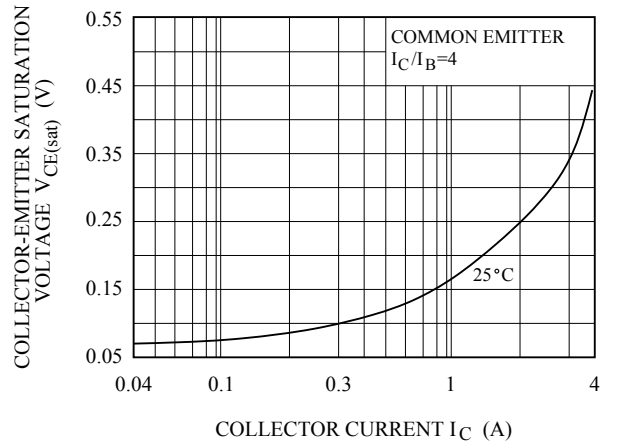
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=9V$ , $I_C=0$	-	-	1	mA
DC Current Gain	$h_{FE}(1)$	$V_{CE}=5V$ , $I_C=1A$	19	-	36	
	$h_{FE}(2)$	$V_{CE}=5V$ , $I_C=2A$	10	-	30	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1A$ , $I_B=0.2A$	-	-	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	$t_{on}$	<p><math>I_{B1}=I_{B2}=0.4A</math> DUTY CYCLE <math>\leq 2\%</math></p>	-	-	0.8	$\mu S$
Storage Time	$t_{stg}$		-	-	4	$\mu S$
Fall Time	$t_f$		-	-	0.9	$\mu S$

# MJE13005

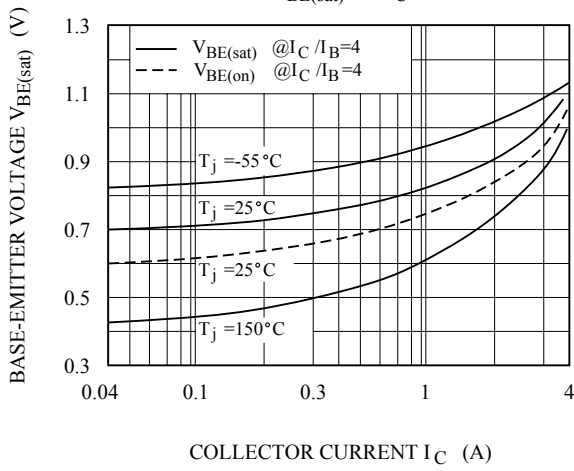
$h_{FE} - I_C$



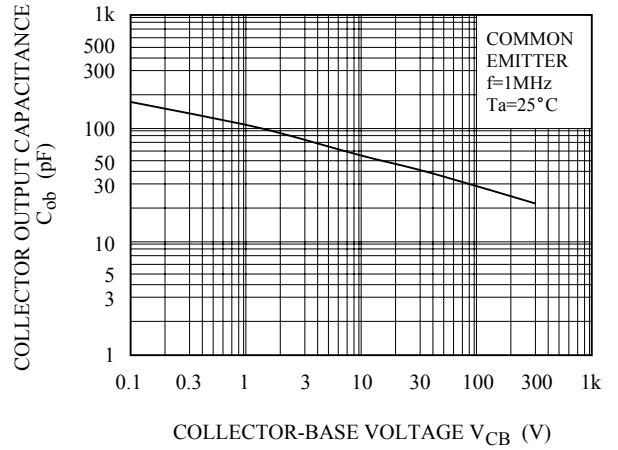
$V_{CE(sat)} - I_C$



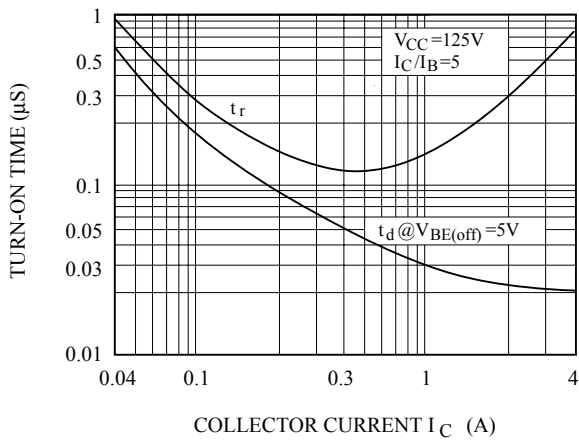
$V_{BE(sat)} - I_C$



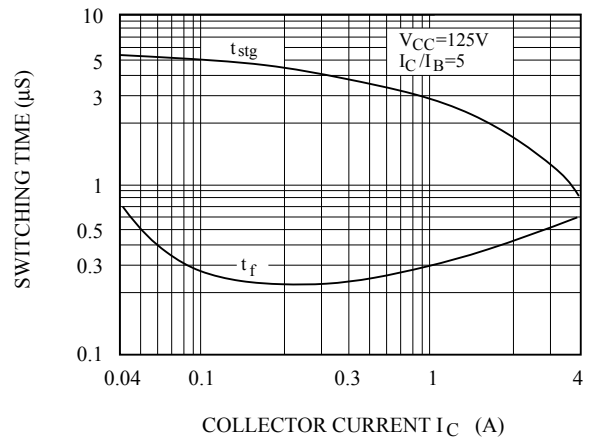
$C_{ob} - V_{CB}$



SWITCHING CHARACTERISTIC

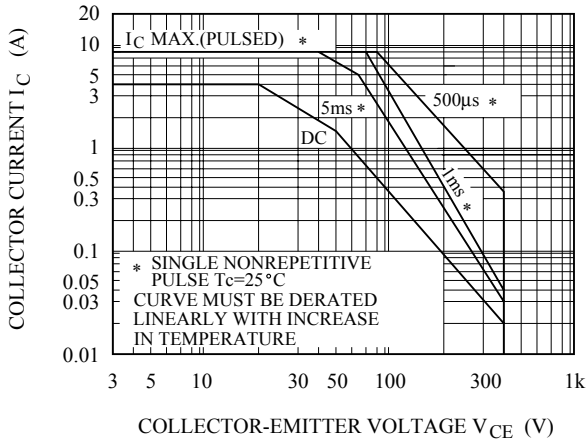


SWITCHING CHARACTERISTIC

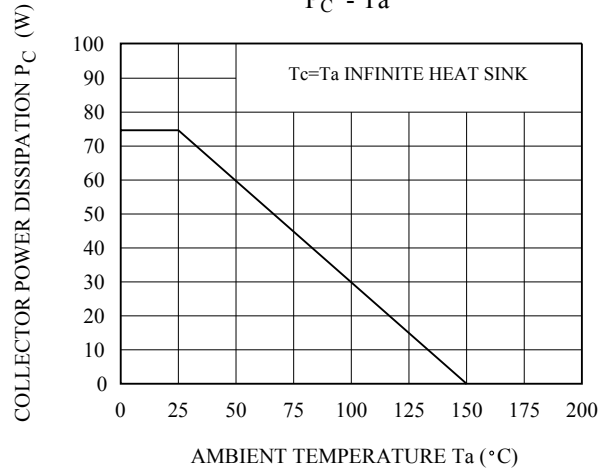


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SAFE OPERATING AREA



$P_C - T_a$



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Datasheets for electronics components.