

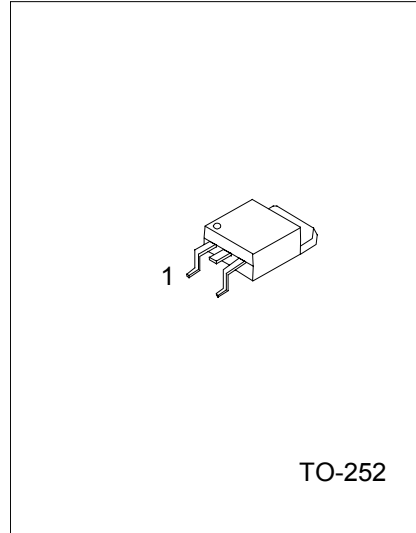
POWER AMPLIFIER APPLICATIONS  
POWER SWITCHING APPLICATIONS

## FEATURES

\*Low saturation voltage

$$V_{CE(sat)} = 0.5V(\text{Max})$$

\*High speed switching time:  $t_{stg} = 1.0 \mu S(\text{Typ.})$



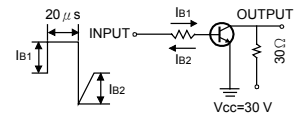
1:BASE 2:COLLECTOR 3:EMITTER

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

PARAMETER	SYMBOL	LIMITS	UNIT
Collector-Base Voltage	$V_{CB0}$	80	V
Collector-Emitter Voltage	$V_{CE0}$	80	V
Emitter-Base Voltage	$V_{EB0}$	5	V
Collector Current	$I_c$	2	A
Base Current	$I_B$	1	A
Collector Power Dissipation	$P_c$	1	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 ~ +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (  $T_a = 25^\circ\text{C}$ , unless otherwise specified )

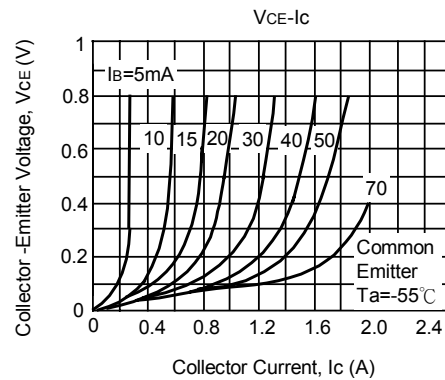
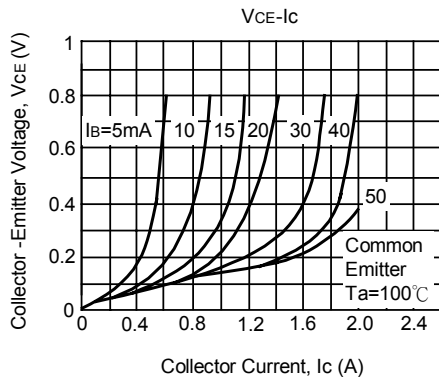
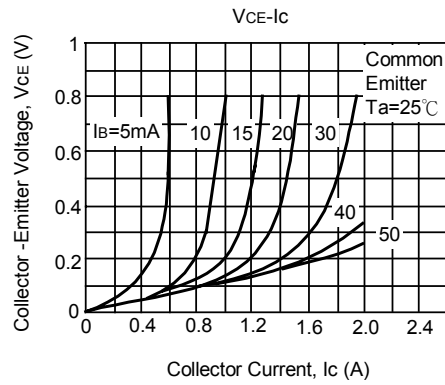
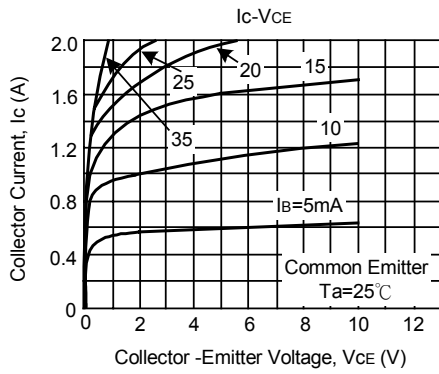
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_c = 10\text{mA}$ , $I_B = 0$	80			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB} = 80\text{V}$ , $I_E = 0$			1.0	$\mu\text{A}$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB} = 5\text{V}$ , $I_c = 0$			1.0	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE} = 2\text{V}$ , $I_c = 0.5\text{A}$	70		240	
	$h_{FE2}$	$V_{CE} = 2\text{V}$ , $I_c = 1.5\text{A}$	40			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_c = 1\text{A}$ , $I_B = 0.05\text{A}$		0.15	0.5	V
Base- Emitter Saturation Voltage	$V_{BE(sat)}$	$I_c = 1\text{A}$ , $I_B = 0.05\text{A}$		0.9	1.2	V
Transition Frequency	$f_T$	$V_{CE} = 2\text{V}$ , $I_c = 0.5\text{A}$		100		MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10\text{V}$ , $I_E = 0$ , $f = 1\text{MHz}$		30		pF

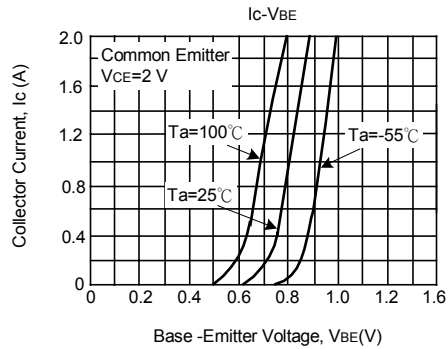
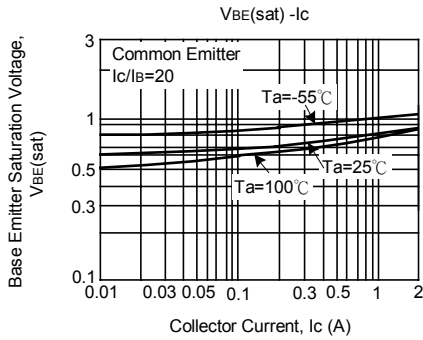
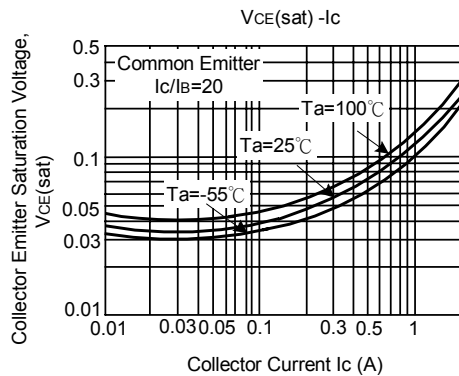
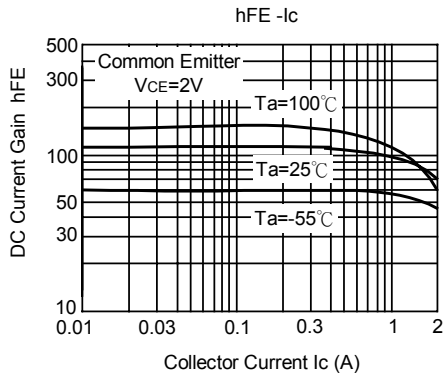
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Switching Time	Turn-on Time	 <p> <math>I_{B1} = -I_{B2} = 0.05A</math>                      DUTY CYCLE <math>\cong 1\%</math> </p>		0.2		$\mu S$
	Storage Time			1.0		
	Fall Time		$t_f$		0.2	

CLASSIFICATION OF hFE1

RANK	O	Y
RANGE	70-140	120-240

ELECTRICAL CHARACTERISTICS CURVES





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