

■ PRODUCT CHARACTERISTICS

BVCBO	700V
BVCEO	400V
HFE@5V400mA	10-40
IC	2.25A

■ FEATURES

- * 700V blocking capability

■ APPLICATIONS

- * Switching regulator's, inverters
- * Motor controls
- * Solenoid/Relay drivers
- * Deflection circuits

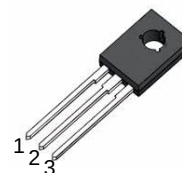
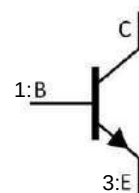
■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Emitter Voltage	$V_{CEO(SUS)}$	400	V
Collector-Emitter Voltage ($V_{BE}=0$)	V_{CES}	700	V
Collector-Base Voltage	V_{CBO}	700	V
Emitter Base Voltage	V_{EBO}	9	V
Collector Current	I_C	2.25	A
Total Power Dissipation	P_C	40	W
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

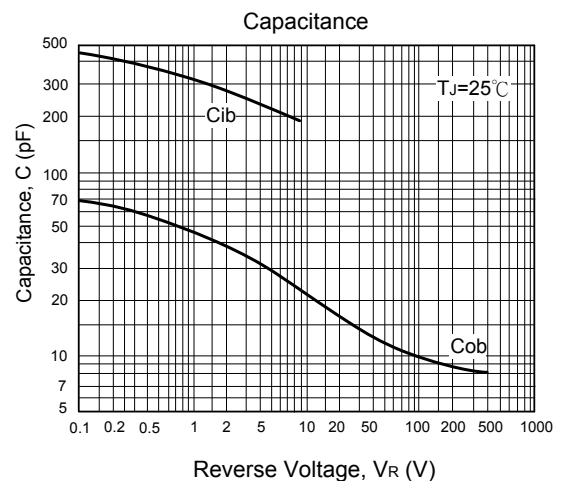
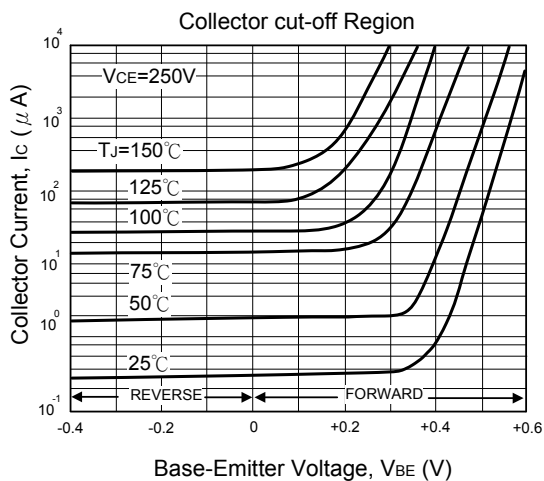
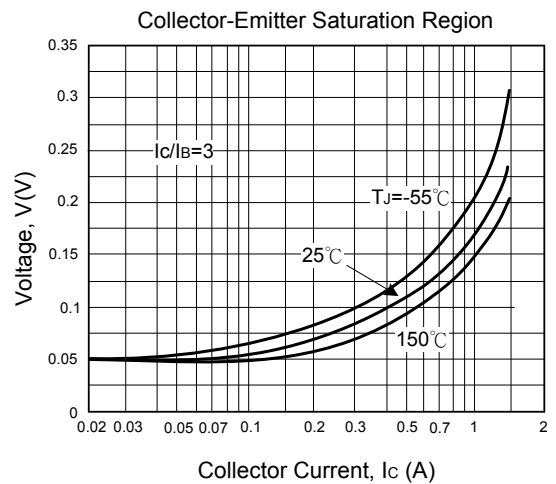
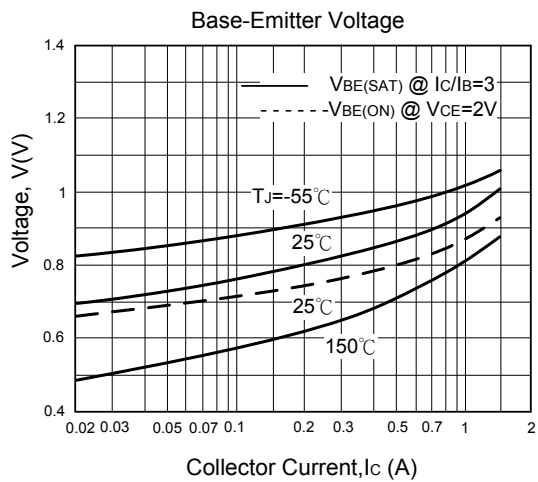
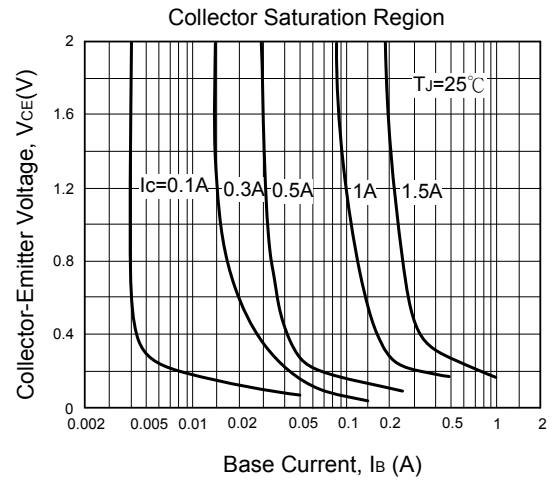
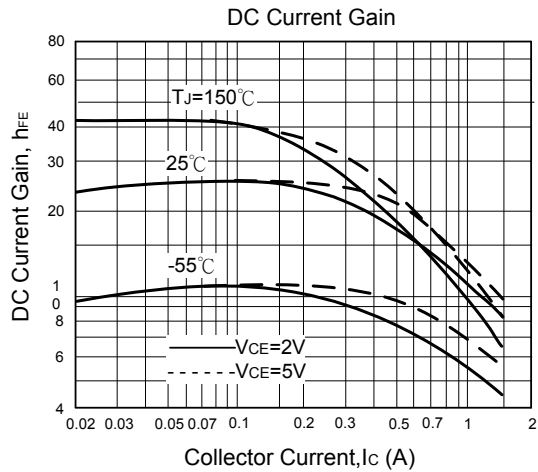
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

Symbol



■ ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$, unless otherwise noted)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS							
Collector-Emitter Sustaining Voltage		$V_{CEO(SUS)}$	$I_C=10\text{ mA}, I_B=0$	400	-	-	V
Collector Cutoff Current	$T_C=25^{\circ}\text{C}$	I_{CEO}	$V_{CEO}=\text{Rated Value},$ $V_{BE(OFF)}=1.5\text{ V}$	-	-	1	mA
	$T_C=100^{\circ}\text{C}$			-	-	5	
Emitter Cutoff Current		I_{EBO}	$V_{EB}=9\text{ V}, I_C=0$	-	-	1	mA
ON CHARACTERISTICS							
DC Current Gain	h_{FE1}	$I_C=0.4\text{ A}, V_{CE}=5\text{ V}$	14	-	32		
	h_{FE2}	$I_C=1\text{ A}, V_{CE}=5\text{ V}$	5	-	30		
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=0.5\text{ A}, I_B=0.1\text{ A}$	-	-	0.5	V	
		$I_C=1\text{ A}, I_B=0.25\text{ A}$	-	-	1		
		$I_C=1.2\text{ A}, I_B=0.4\text{ A}$	-	-	3		
		$I_C=1\text{ A}, I_B=0.25\text{ A}, T_C=100^{\circ}\text{C}$	-	-	1		
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=0.5\text{ A}, I_B=0.1\text{ A}$	-	-	1	V	
		$I_C=1\text{ A}, I_B=0.25\text{ A}$	-	-	1.2		
		$I_C=1\text{ A}, I_B=0.25\text{ A}, T_C=100^{\circ}\text{C}$	-	-	1.1		
DYNAMIC CHARACTERISTICS							
Current-Gain-Bandwidth Product		f_T	$I_C=100\text{ mA}, V_{CE}=10\text{ V}, f=1\text{ MHz}$	4	10	-	MHz
Output Capacitance		C_{OB}	$V_{CB}=10\text{ V}, I_E=0, f=0.1\text{ MHz}$	-	21	-	pF
SWITCHING CHARACTERISTICS							
Delay Time	t_D	$V_{CC}=125\text{ V}, I_C=1\text{ A}, I_{B1}=I_{B2}=0.2\text{ A},$ $t_P=25\mu\text{s}, \text{Duty Cycle}\leq 1\%$	-	0.05	0.1	μs	
Rise Time	t_R		-	0.5	1	μs	
Storage Time	t_S		-	2	4	μs	
Fall Time	t_F		-	0.4	0.7	μs	
Inductive Load, Clamped							
Storage Time	t_{STG}	$I_C=1\text{ A}, V_{\text{clamp}}=300\text{ V}, I_{B1}=0.2\text{ A},$ $V_{BE(OFF)}=5\text{ Vdc}, T_C=100^{\circ}\text{C}$	-	1.7	4	μs	
Crossover Time	t_C		-	0.29	0.75	μs	
Fall Time	t_F		-	0.15		μs	

■ TYPICAL CHARACTERISTICS


TO-18 PACKAGE OUTLINE DIMENSIONS

