

◆Si APN

◆RoHS COMPLIANT

1. APPLICATION

Fluorescent Lamp、Electronic Ballast、
and Switch-mode power supplies

2. FEATURES

- High voltage capability
- Intergrated antiparallel collector-emitter diode
- Features of good high temperature
- High switching speed

3. PACKAGE

TO-220

4. Electrical Characteristics

4.1 Absolute Maximum Ratings

$T_{amb} = 25^{\circ}\text{C}$ unless specified

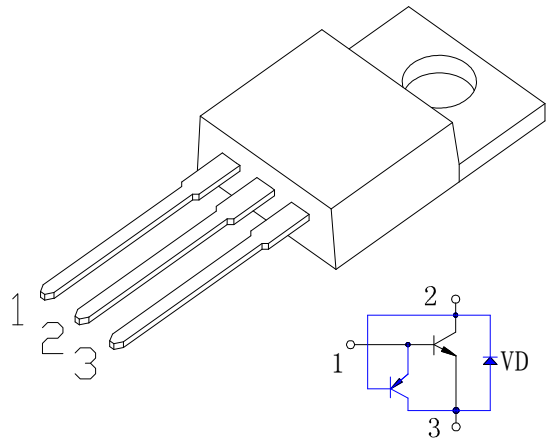
PARAMETER		SYMBOL	VALUE	UNIT
Collector-Base Voltage		V_{CBO}	700	V
Collector-Emitter Voltage		V_{CEO}	400	V
Emitter- Base Voltage		V_{EBO}	9	V
Collector Current		I_C	4	A
Power Dissipation	$T_a=25^{\circ}\text{C}$	P_{tot}	2	W
	$T_c=25^{\circ}\text{C}$		50	
Junction Temperature		T_j	150	$^{\circ}\text{C}$
Storage Temperature		T_{stg}	-55~150	$^{\circ}\text{C}$

4.2 Electrical Parameter

$T_{amb} = 25^{\circ}\text{C}$ unless specified

PARAMETER	SYMBOL	TEST CONDITION	VALUE			UNIT
			MIN	TYP	MAX	
Collector-Base Voltage	BV_{CBO}	$I_C=1\text{mA}, I_E=0$	700			V
Collector-Emitter Voltage	BV_{CEO}	$I_C=1\text{mA}, I_B=0$	400			V
Emitter-Base Voltage	BV_{EBO}	$I_E=1\text{mA}, I_C=0$	9			V
Collector-Base Cutoff Current	I_{CBO}	$V_{CB}=700\text{V}, I_E=0$			10	μA
Collector-Emitter Cutoff Current	I_{CEO}	$V_{CE}=400\text{V}, I_B=0$			20	μA
Emitter-Base Cutoff Current	I_{EBO}	$V_{EB}=9\text{V}, I_C=0$			10	μA
DC Current Gain	h_{FE}^*	$V_{CE}=5\text{V}, I_C=1\text{mA}$	8			
		$V_{CE}=5\text{V}, I_C=0.5\text{A}$	15		30	
Collector-Emitter Saturation Voltage	$V_{CE\text{ sat}}^*$	$I_C=2\text{A}, I_B=1\text{A}$			0.8	V
Base-Emitter Saturation Voltage	$V_{BE\text{ sat}}^*$	$I_C=2\text{A}, I_B=1\text{A}$			1.4	V
Rising Time	t_r	$I_C=500\text{mA} \quad (UI9600)$			1	μs
Falling Time	t_f				0.8	μs
Storage Time	t_s		2.5		4.0	μs
Typical Frequency	f_T	$V_{CE}=10\text{V}, I_C=0.5\text{A}, f=1\text{MHz}$	5			MHz

*: Pulse test $t_p \leq 300 \mu\text{s}, \delta \leq 2\%$



1 Base(B) 2 Collector(C) 3 Emitter(E)

5. Characteristic Curve

Fig1 SOA (DC)

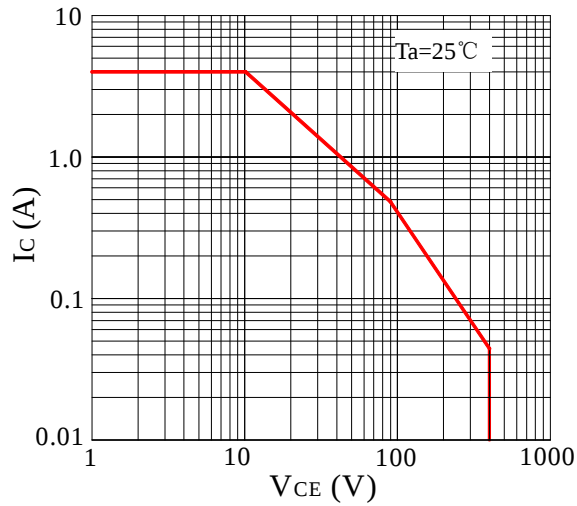


Fig2 Ptot - T

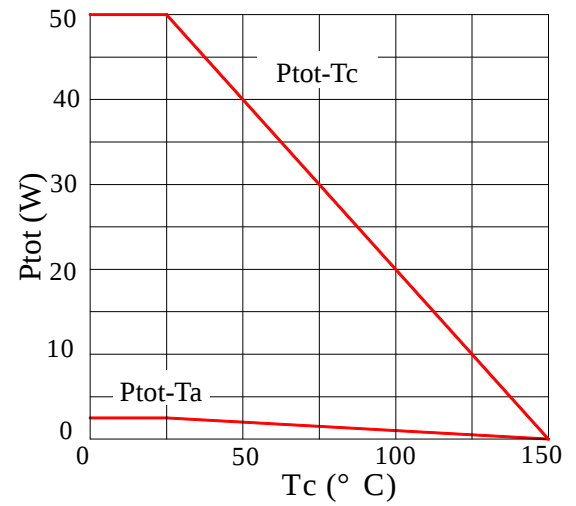


Fig3 Static Characteristic

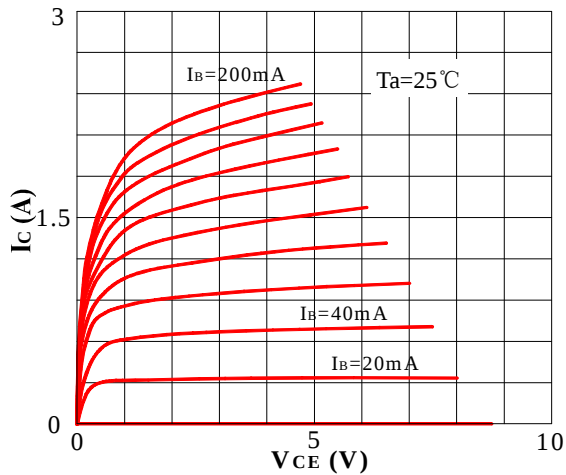


Fig4 hFE-IC

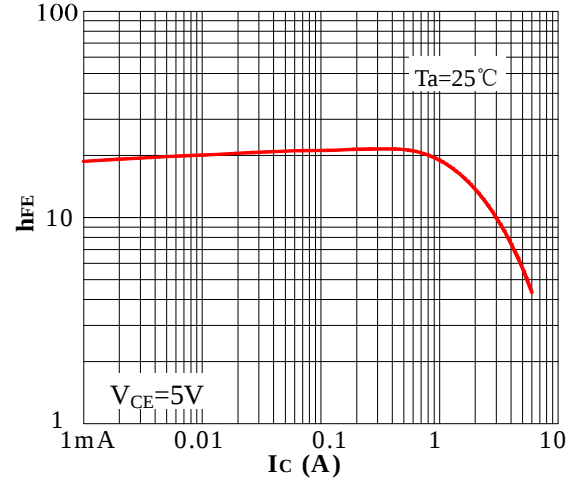


Fig5 VCESat-IC

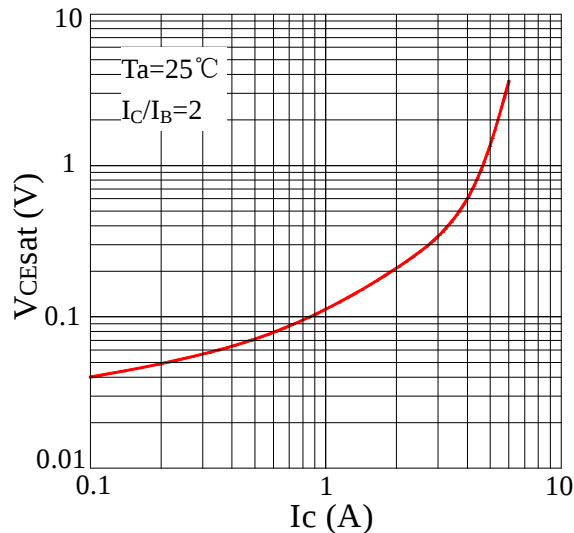
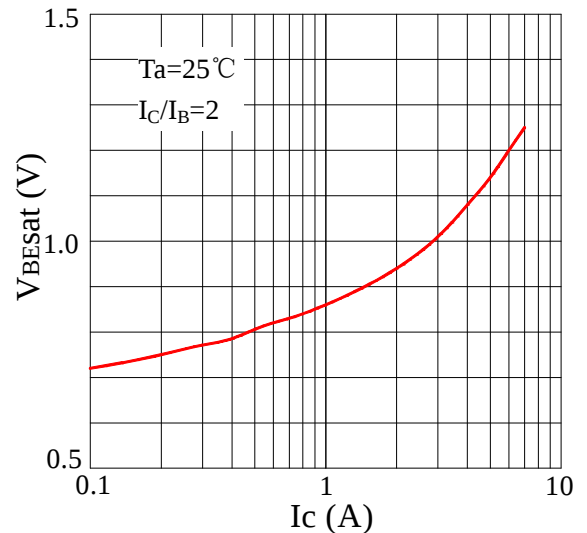


Fig6 VBESat-IC



6. Package Dimentions(Unit: mm)

T0-220

