

Switching Power Supply Transistor

Features

- ✧ High V_{CBO} (Min.=1200V)
- ✧ Large Collector Current
- ✧ NPN
- ✧ High Voltage Planar Process

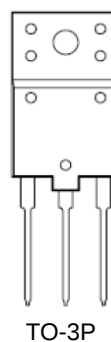
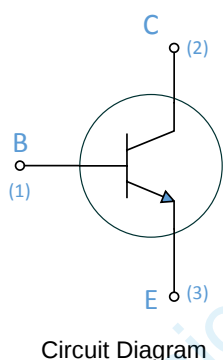
V_{CBO}	1200V
I_C	10A
$V_{CE(sat)}$	0.5V (Max.)
t_f	0.3uS (Max.)

Applications

- ✧ Switching Power Supply

Mechanical Data

- ✧ Package : TO-3P



Absolute Maximum Rating ($T_a=25^{\circ}\text{C}$, unless otherwise noted)

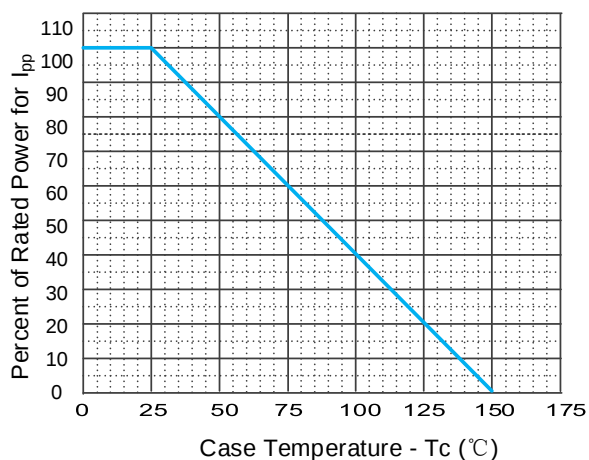
Parameter	Symbol	Value	Unit
Collector to Base Voltage	V_{CBO}	1200	V
Collector to Emitter Voltage	V_{CEO}	700	V
Emitter to Base Voltage	V_{EBO}	6	V
Collector Current DC	I_C	10	A
Collector Current Peak	I_{CP}	20	A
Base Current DC	I_B	5	A
Collector Power Dissipation	P_C	50	W
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

Electronics Characteristics (Ta=25°C, unless otherwise noted)

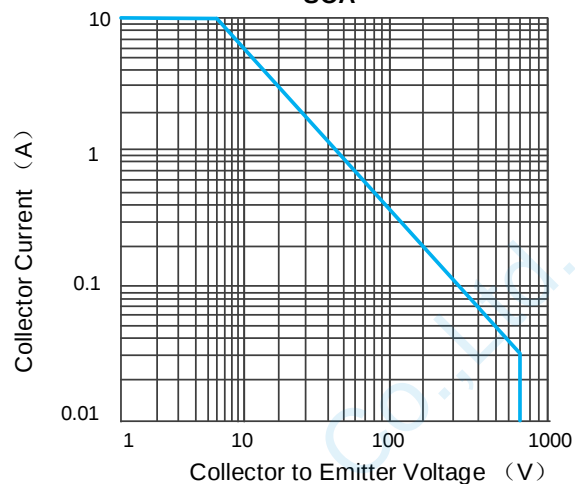
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Collector to Emitter Voltage	V_{CEO}	$I_C = 1\text{mA}, I_B = 0$	700			V
Collector to Base Voltage	V_{CBO}	$I_C = 1\text{mA}, I_E = 0$	1200			V
Emitter to Base Voltage	V_{EBO}	$I_C = 0, I_E = 400\text{mA}$	6			V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 1200\text{V}, I_E = 0$		1		mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 6\text{V}, I_C = 0$		10		uA
DC Current Gain	H_{FE}	$V_{CE} = 5\text{V}, I_C = 1\text{A}$	15	35		
		$V_{CE} = 5\text{V}, I_C = 5\text{A}$	6			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 3\text{A}, I_B = 0.6\text{A}$		0.5		V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 3\text{A}, I_B = 0.6\text{A}$		1.3		V
Fall Time	t_f	$I_C = 5\text{A}, 2I_{B1} = -I_{B2} = 2\text{A}$ $f_H = 15.75\text{kHz}$		0.3		uS
Storage Time	t_s			4.0		
Transition Frequency	f_t	$V_{CE} = 10\text{V}, I_C = 0.1\text{A}$	1.7			MHz

Electronics Characteristics (Ta=25°C, unless otherwise noted)

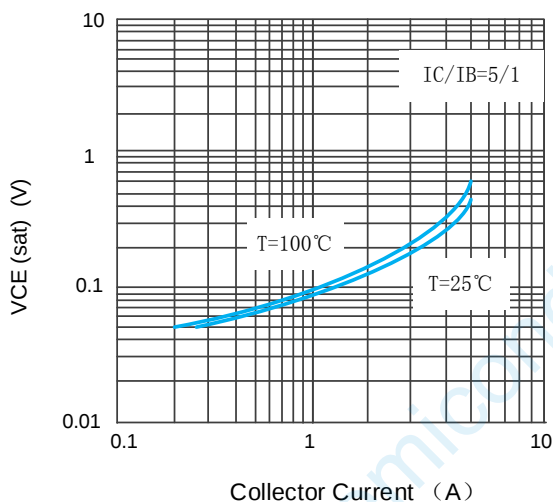
Power derating vs. Case temperature



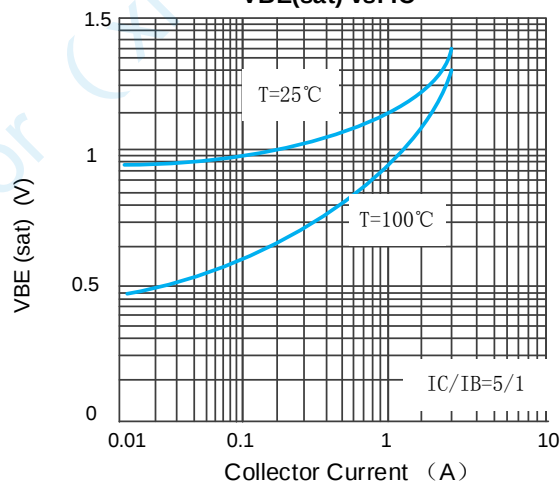
SOA



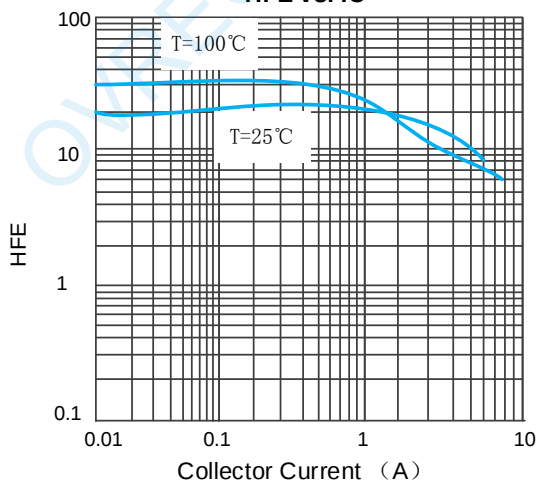
VCE(sat) vs. IC



VBE(sat) vs. IC



HFE vs. IC



Package information

