

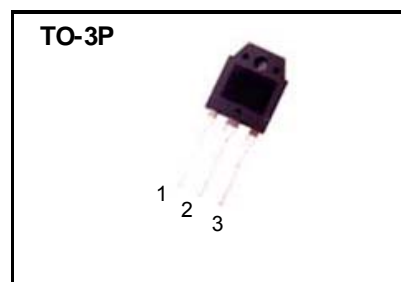
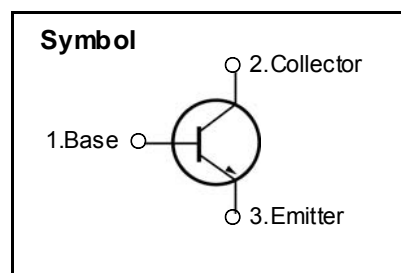
Switch Mode series NPN silicon Power Transistor

Features

- ◆ High voltage, high speed power switching
- ◆ Low VCE(sat)

General Description

This device is designed for high voltage, high speed switching characteristic required such as switching regulator, inverters, motor controls.



Absolute Maximum Ratings ($T_J = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Maximum rating	Unit
Collector-Base Voltage	VCBO	500	V
Collector-Emitter Voltage	VCEO	400	V
Emitter-Base Voltage	VEBO	7	V
Collector Current(DC)	IC	15	A
Base Current	IB	5	A
Collector Dissipation($T_c=25^\circ\text{C}$)	PC	80	W
Junction Temperature	TJ	150	$^\circ\text{C}$
Storage Temperature	TSTG	-65 ~ 150	$^\circ\text{C}$

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Electrical Characteristics (TC = 25°C Unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage	V_{CEO}	IC=10mA, IB=0	400			V
Collector-Emitter Breakdown Voltage	$V_{CEO(SUS)}$	IC=0.2A	400			V
Collector Cut-off Current	I_{CBO}	VCB=500V, IE=0			1	mA
Emitter Cutoff Current	I_{EBO}	VEB=7V, IC=0			1	mA
DC Current Gain	h_{FE}	VCE=5V, IC=6A	10		40	-
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	IC=6A, IB=1.2A			1	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	IC=6A, IB=1.2A			1.5	V
Storage Time	t_{STG}	VCC=5V, IC=0.5A	1		4	μ S
Fall Time	t_f	(UI9600)			0.8	μ S



Fig. 1 Static Characteristics

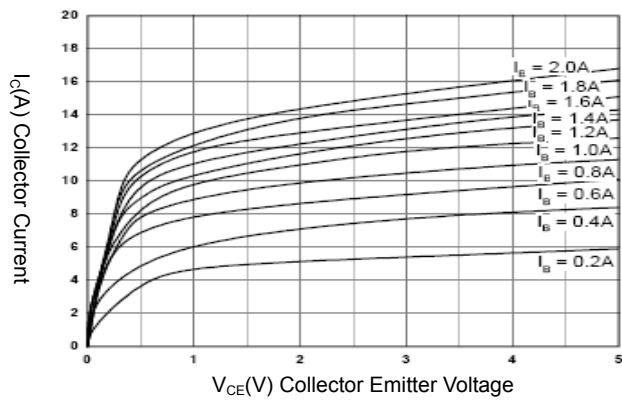


Fig. 2 DC Current Gain

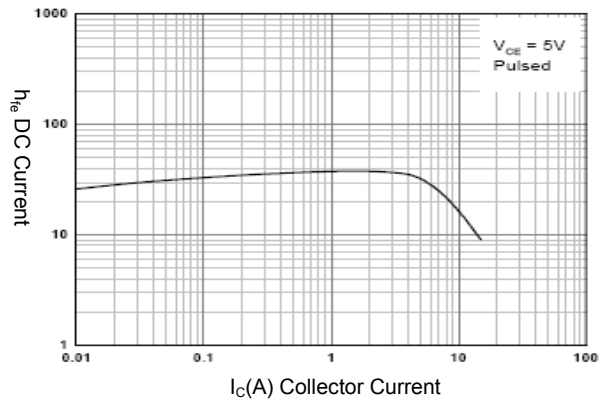


Fig. 3 Saturation Voltage

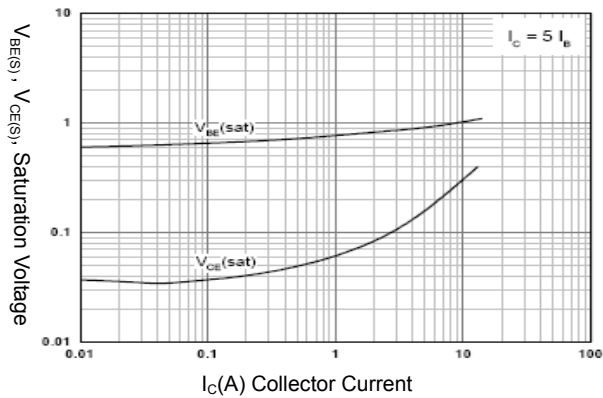


Fig. 4 Safe Operation Area

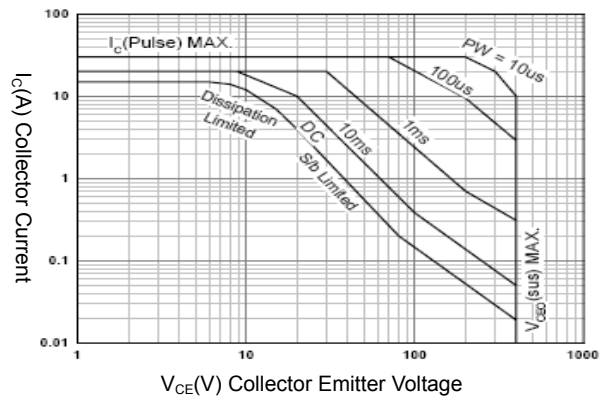
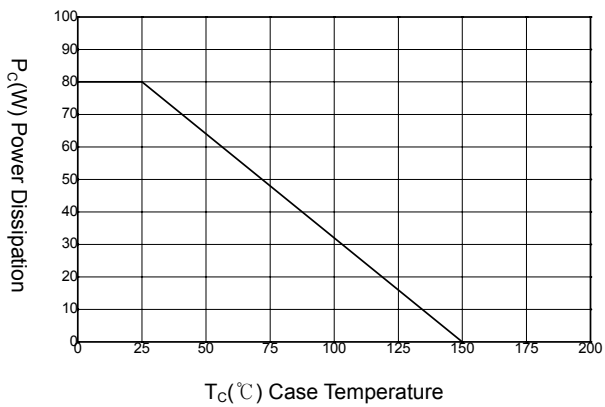
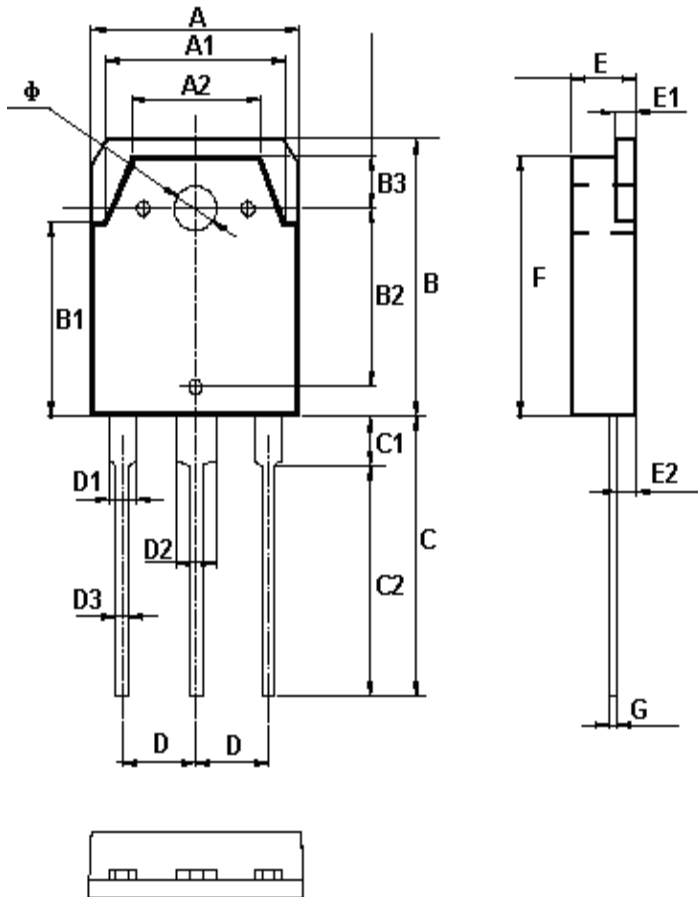


Fig. 5 Power Derating



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TO-3P Package Dimension



corresponding symbol	measurement	
A(mm)	15.60±0.20	
A1(mm)	13.60±0.20	
A2(mm)dia.	9.60±0.20	
B(mm)	19.90±0.20	
B1(mm)	13.90±0.20	
B2(mm)	12.76±0.20	
B3(mm)	3.80±0.20	
C(mm)	20.00±0.30	
C1(mm)	3.50±0.20	
C2(mm)	16.50±0.30	
D(mm)	5.45(TYP)	
D1	2.0 ±0.20	
D2	3.0±0.20	
D3	1.00±0.20	
E(mm)	4.80±0.20	
E1(mm)	1.50±	+0.15 -0.05
E2(mm)	1.40±0.20	
F(mm)	18.70±0.20	
G(mm)	0.60	+0.15 -0.05
φ(mm)	3.20±0.10	