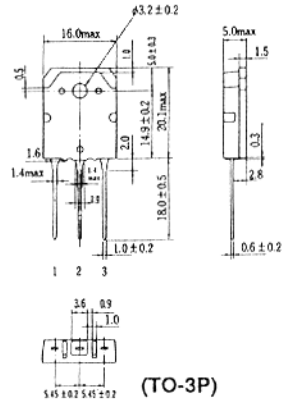


2SC3336

SILICON NPN TRIPLE DIFFUSED
HIGH VOLTAGE, HIGH SPEED AND
HIGH POWER SWITCHING



1. Base
 2. Collector (Flange)
 3. Emitter
- (Dimensions in mm)

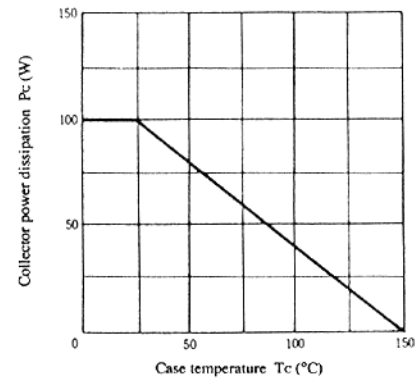
(TO-3P)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SC3336	Unit
Collector to base voltage	V _{CB0}	500	V
Collector to emitter voltage	V _{CEO}	400	V
Emitter to base voltage	V _{EBO}	10	V
Collector current	I _C	15	A
Collector peak current	i _{C(peak)}	25	A
Base current	I _B	7.5	A
Collector power dissipation	P _{c*}	100	W
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

* Value at T_c = 25°C

■ MAXIMUM COLLECTOR DISSIPATION CURVE

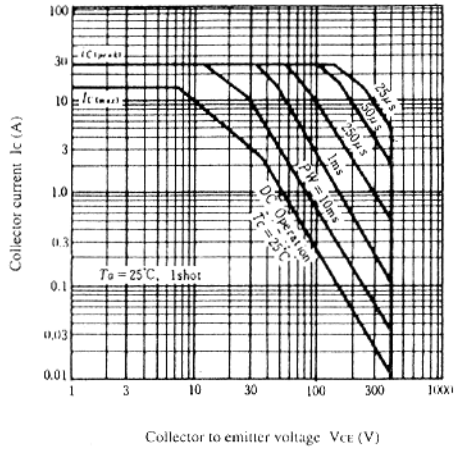


■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

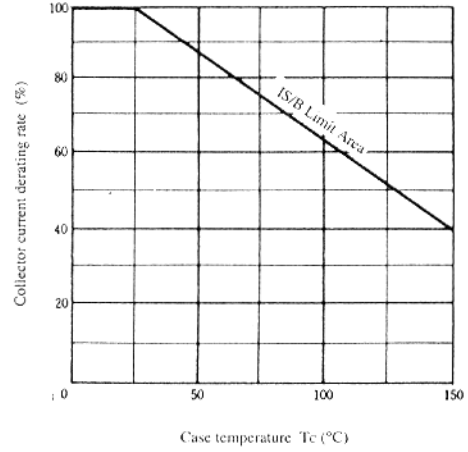
Item	Symbol	Test Condition	min.	typ.	max.	Unit
Collector to emitter sustain voltage	V _{CEO(sus)}	I _C = 0.2A, R _{BE} = ∞, L = 100mH	400	—	—	V
	V _{CEX(sus)}	I _C = 15A, I _{B1} = 3.0A, I _{B2} = -1A V _{BE} = -5.0V, L = 180μH, Clamped	400	—	—	V
Emitter to base breakdown voltage	V _{(BR)EBO}	I _E = 10mA, I _C = 0	10	—	—	V
Collector cutoff current	I _{CBO}	V _{CB} = 400V, I _E = 0	—	—	50	μA
	I _{CEO}	V _{CE} = 350V, R _{BE} = ∞	—	—	50	μA
DC current transfer ratio	h _{FE1}	V _{CE} = 5.0V, I _C = 7.5A*	12	—	—	
	h _{FE2}	V _{CE} = 5.0V, I _C = 15A*	5	—	—	
Collector to emitter saturation voltage	V _{CE(sat)}	I _C = 7.5A, I _B = 1.5A*	—	—	1.0	V
Base to emitter saturation voltage	V _{BE(sat)}		—	—	1.5	V
Turn on time	t _{on}	I _C = 15A, I _{B1} = -I _{B2} = 3.0A V _{CC} ≈ 150V	—	—	0.5	μs
Storage time	t _{stg}		—	—	1.5	μs
Fall time	t _f		—	0.3	0.5	μs

* Pulse Test

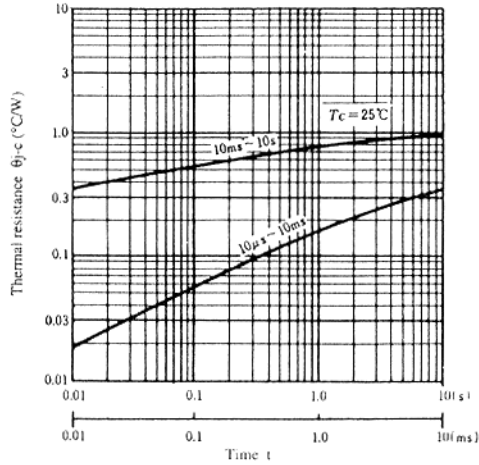
AREA OF SAFE OPERATION



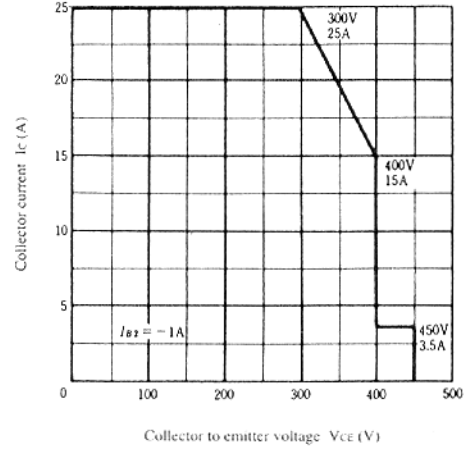
COLLECTOR CURRENT DERATING RATE



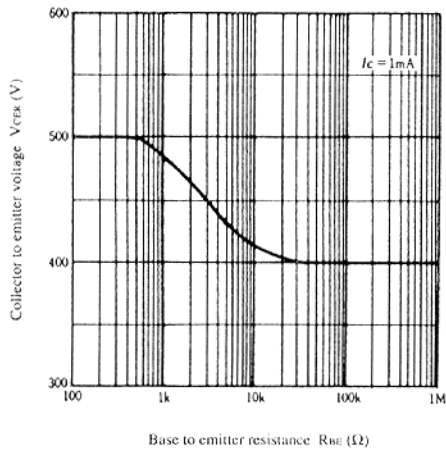
TRANSIENT THERMAL RESISTANCE



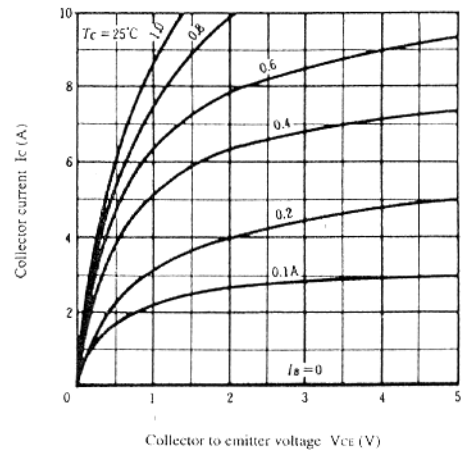
REVERSE BIAS AREA OF SAFE OPERATION



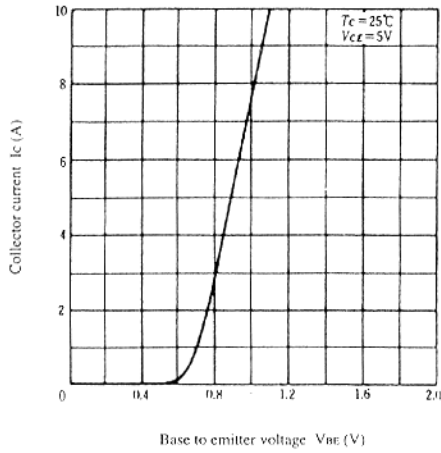
COLLECTOR TO EMITTER VOLTAGE VS. BASE TO EMITTER RESISTANCE



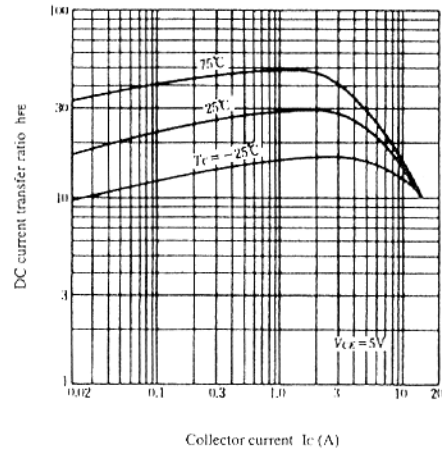
TYPICAL OUTPUT CHARACTERISTICS



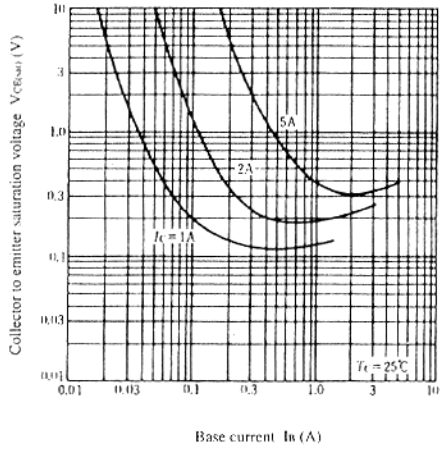
TYPICAL TRANSFER CHARACTERISTICS



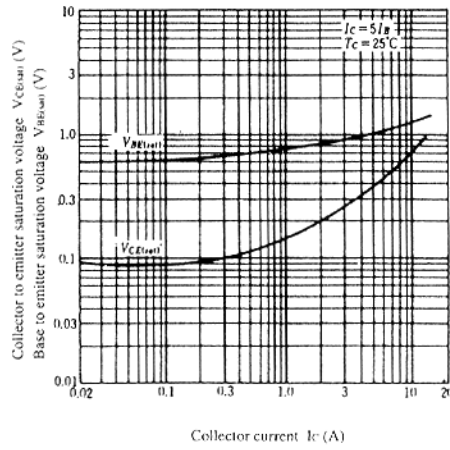
DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



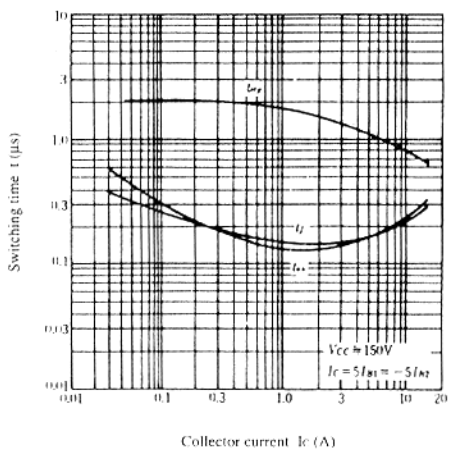
COLLECTOR TO EMITTER SATURATION VOLTAGE VS. BASE CURRENT



SATURATION VOLTAGE VS. COLLECTOR CURRENT



SWITCHING TIME VS. COLLECTOR CURRENT



SWITCHING TIME VS. CASE TEMPERATURE

