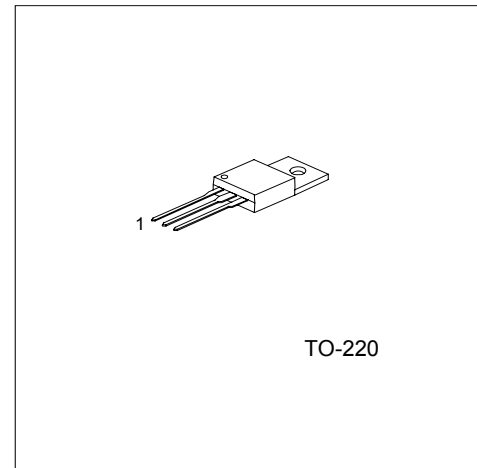


HIGH VOLTAGE HIGH SPEED POWER
SWITCHING TRANSISTOR

FEATURES

- * High hFE for Low base drive requirement
- * Suitable for half bridge light ballast Applications
- * Built-in Free-wheeling Diode makes it specially suitable for light ballast Applications
- * Well controlled storage-time spread for all range of hFE



TO-220

1: Base 2: Collector 3: Emitter

*Pb-free plating product number: 2SC5305L

ABSOLUTE MAXIMUM RATINGS

(T_C=25°C, unless otherwise noted.)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector Base Voltage	V _{CB0}	800	V
Collector Emitter Voltage	V _{CEO}	400	V
Emitter Base Voltage	V _{EBO}	12	V
Collector Current (DC)	I _C	5	A
Collector Current (Pulse)*	I _{CP}	10	A
Base Current (DC)	I _B	2	A
Base Current (Pulse)*	I _{BP}	4	A
Power Dissipation (T _C =25°C)	P _C	75	W
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-65 ~ 150	°C

THERMAL CHARACTERISTICS

(T_C=25°C, unless otherwise noted.)

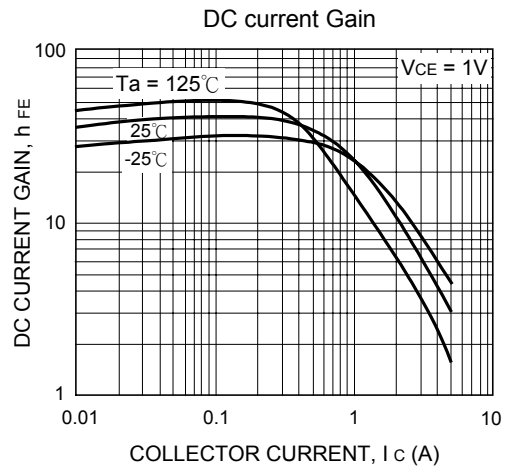
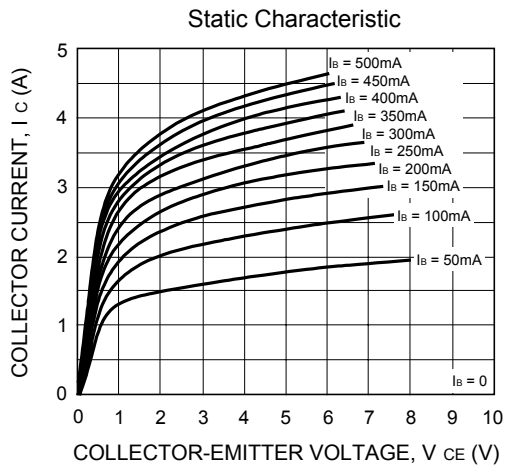
PARAMETER	SYMBOL	RATINGS	UNIT
Thermal Resistance			
Junction to Case	R _{θJC}	1.65	°C/W
Junction to Ambient	R _{θJA}	62.5	

ELECTRICAL CHARACTERISTICS

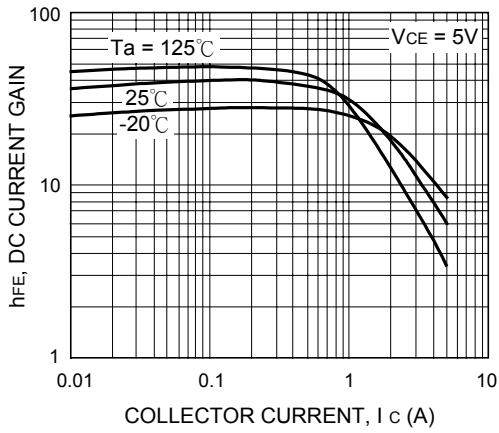
(T_C=25°C, unless otherwise noted.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV _{CBO}	I _C = 1mA, I _E = 0	800			V
Collector-Emitter Breakdown Voltage	BV _{CEO}	I _C = 5mA, I _B = 0	400			V
Emitter Cut-off Current	BV _{EBO}	I _E =1mA, I _C =0	12			V
Collector Cut-off Current	I _{CBO}	V _{CB} =500V, I _E =0			10	μA
Emitter Cut-off Current	I _{EBO}	V _{EB} = 9V, I _C = 0			10	μA
DC Current Gain	h _{FE1} h _{FE2}	V _{CE} =1V, I _C =0.8A	22			
		V _{CE} =1V, I _C =2A	8			
Collector-Emitter Saturation Voltage	V _{CE} (sat)	I _C =0.8A, I _B =0.08A			0.4	V
		I _C =2A, I _B =0.4A			0.5	V
Base-Emitter Saturation Voltage	V _{BE} (sat)	I _C =0.8A, I _B =0.08A			1.0	V
		I _C =2A, I _B =0.4A			1.0	V
Output Capacitance	C _{ob}	V _{CB} = 10V, f=1MHz			75	pF
Turn ON Time	t _{ON}	V _{CC} =300V, I _C =2A			150	ns
Storage Time	t _{STG}	I _{B1} = 0.4A, I _{B2} =-1A R _L = 150Ω			2	μs
Fall Time	t _F				0.2	μs
Storage Time	t _{STG}		V _{CC} =15V, V _Z =300V			2.25
Fall Time	t _F	I _C = 2A, I _{B1} = 0.4A			150	ns
		I _{B2} = -0.4A, L _C =200μH				
Diode Forward Voltage	V _F	I _F = 1A			1.5	V
		I _F = 2A			1.6	V
Reverse recovery time* (di/dt =10A/μs)	t _{rr}	I _F = 0.4A		800		ns
		I _F = 1A		1.4		μs
		I _F = 2A		1.9		μs

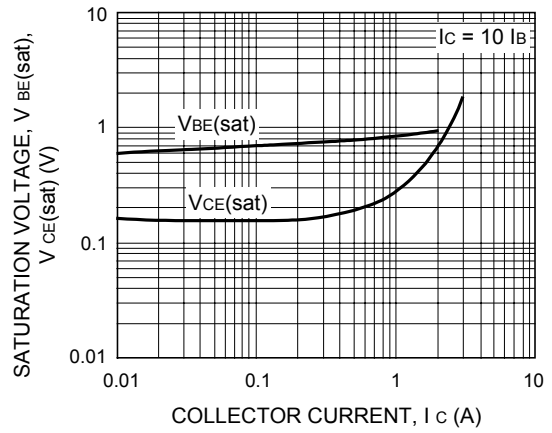
*Pulse Test : Pulse Width=5mS, Duty cycles ≤ 10%



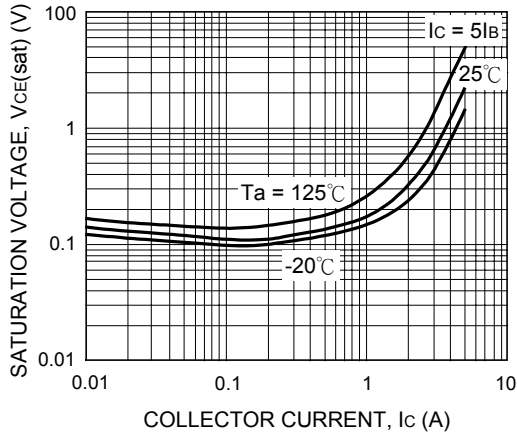
DC current Gain



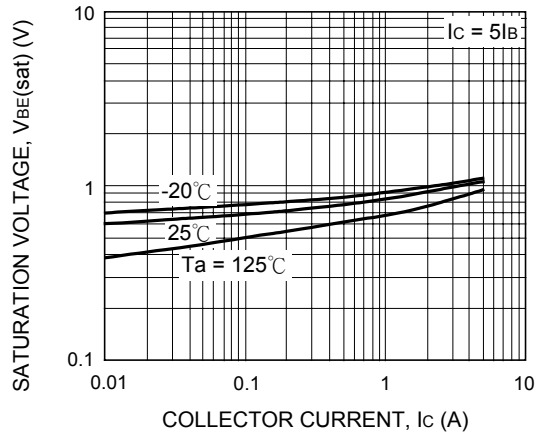
Collector-Emitter Saturation Voltage
Base-Emitter Saturation Voltage



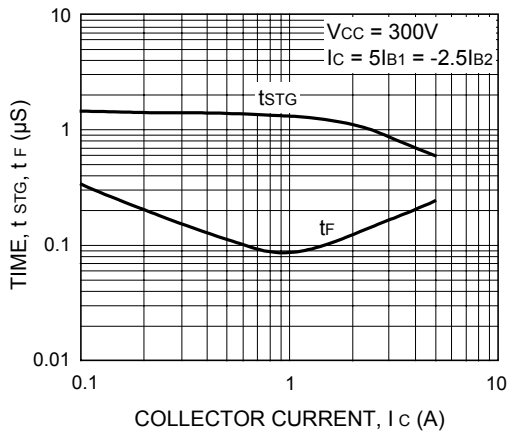
Collector-Emitter Saturation Voltage



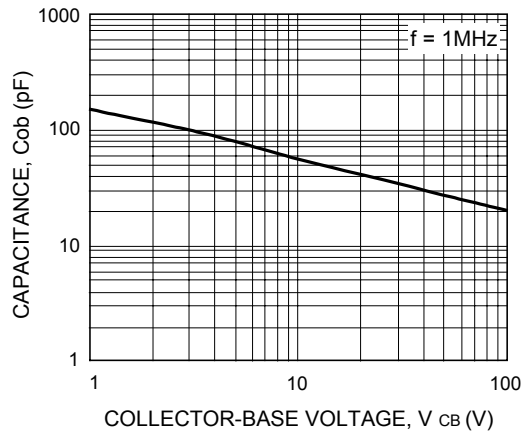
Base-Emitter Saturation Voltage

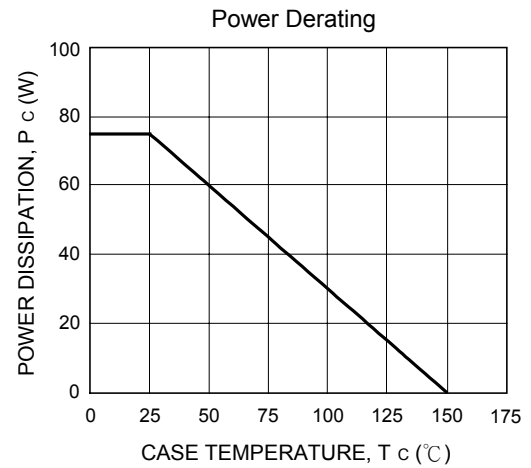
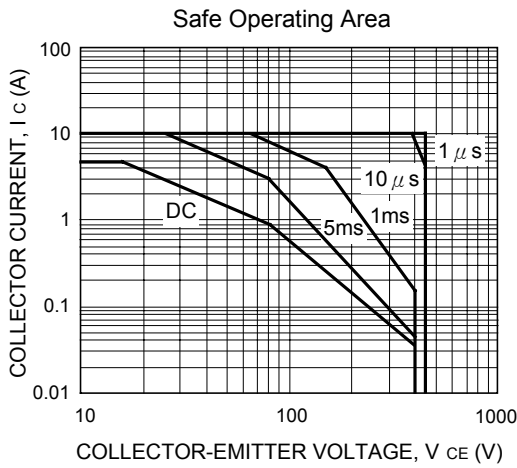
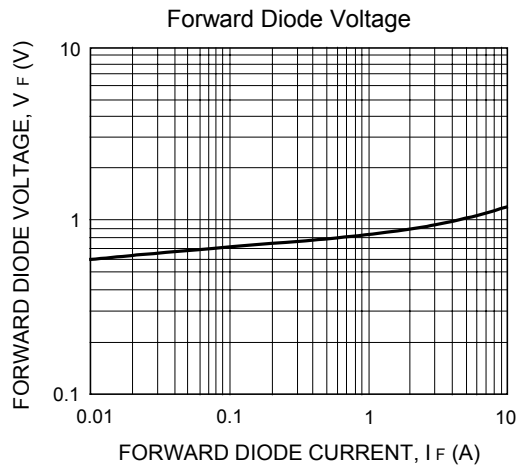
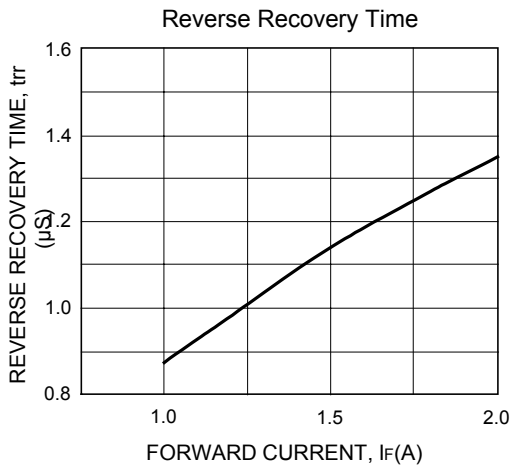


Switching Time



Collector Output Capacitance





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