

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Emitter Voltage ($V_{BE} = 0$)	V_{CES}	1100	V
Collector-Emitter Voltage ($I_B = 0$)	V_{CEO}	450	V
Emitter-Base Voltage ($I_C = 0$)	V_{EBO}	12	V
Collector Current	I_C	4	A
Collector Peak Current ($t_p < 5$ ms)	I_{CM}	8	A
Base Current	I_B	2	A
Base Peak Current ($t_p < 5$ ms)	I_{BM}	4	A
Total Dissipation at $T_C = 25^\circ\text{C}$	P_D	70	W
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-65 ~ +150	$^\circ\text{C}$

Note: Absolute maximum ratings are the values beyond which the device will be damaged permanently.

Absolute maximum ratings are only stress ratings and it is not implied for functional device operation.

■ THERMAL DATA

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Thermal Resistance Junction-Case	θ_{JC}			1.78	$^\circ\text{C}/\text{W}$

■ ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-off Current ($V_{BE} = 0$)	I_{CES}	$V_{CE} = 1100$ V			100	μA
Emitter Cut-off Current ($I_B = 0$)	I_{EBO}	$V_{EB} = 12$ V			1	mA
Collector-Emitter Sustaining Voltage ($I_B = 0$)	$V_{CEO(SUS)}$ (Note)	$I_C = 100$ mA	450			V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$ (Note)	$I_C = 2$ A, $I_B = 400$ mA			1.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$ (Note)	$I_C = 2$ A, $I_B = 400$ mA			1.5	V
DC Current Gain	h_{FE} (Note)	$I_C = 250$ mA, $V_{CE} = 5$ V $I_C = 2$ A, $V_{CE} = 5$ V	35 12		70 20	
Resistive Load: Storage Time	t_S	$I_C = 2.5$ A, $V_{CC} = 250$ V $I_{B1} = 0.5$ A, $I_{B2} = 1$ A			2.5	μs
Fall Time	t_F	$T_P = 30$ ms			300	ns
Avalanche Energy	E_{AR}	$L = 2$ mH, $C = 1.8$ nF $I_{BR} \leq 2.5$ A, $25^\circ\text{C} < T_C < 125^\circ\text{C}$	6			mJ

Note: Pulsed: Pulse duration = 300 μs , duty cycle 1.5 %

■ TEST CIRCUIT

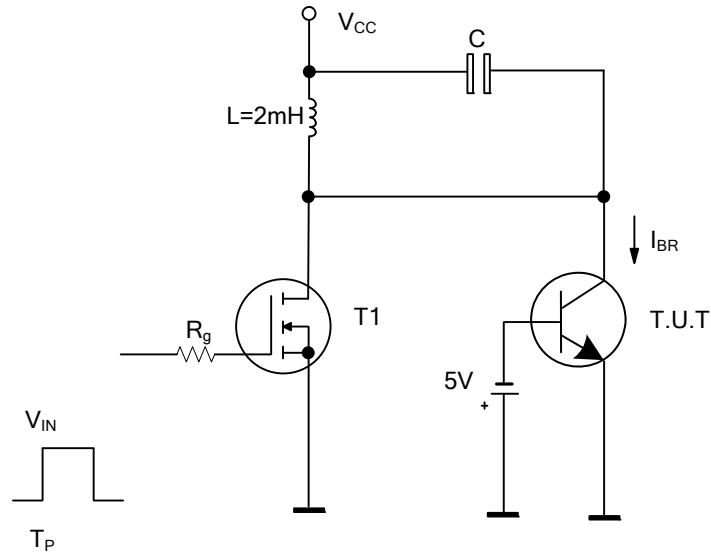


Figure 1. Energy Rating Test Circuit

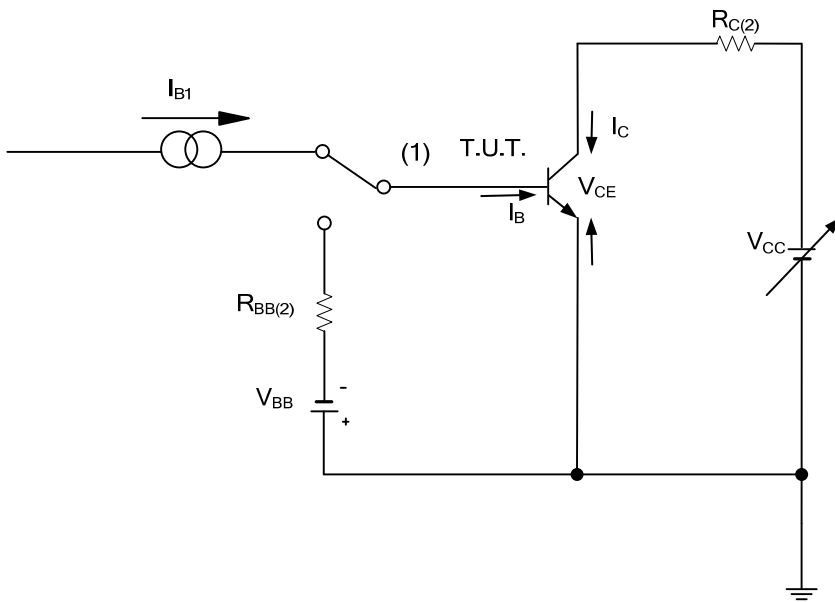
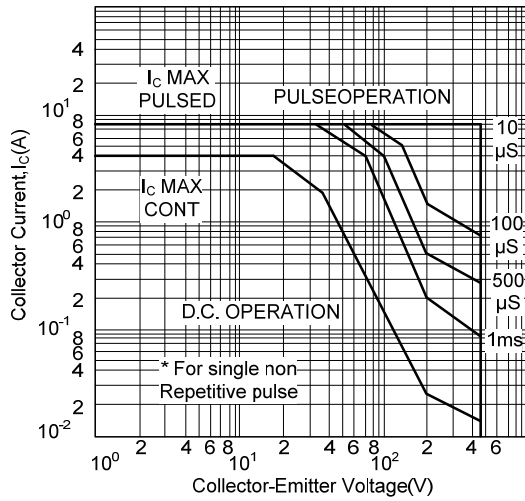


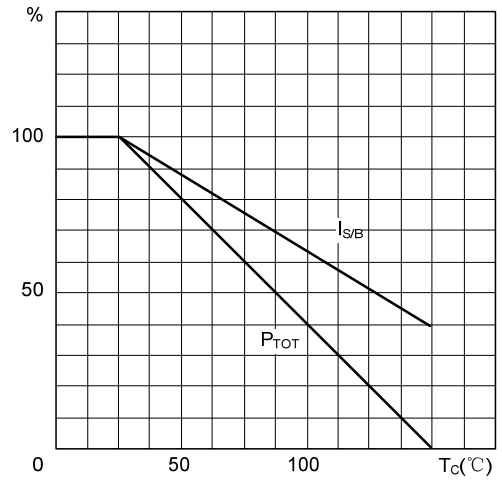
Figure 2. Resistive Load Switching Test Circuit

TYPICAL CHARACTERISTICS

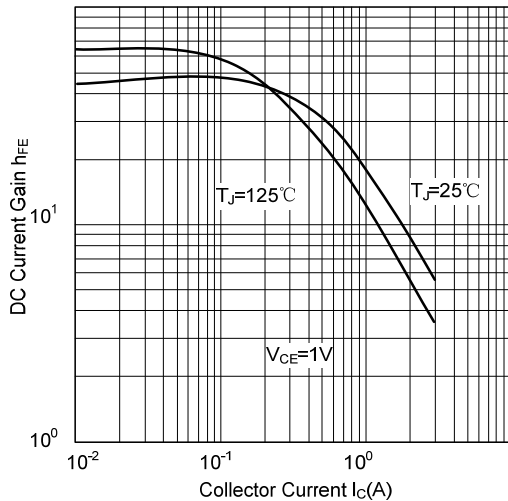
Safe Operating Areas



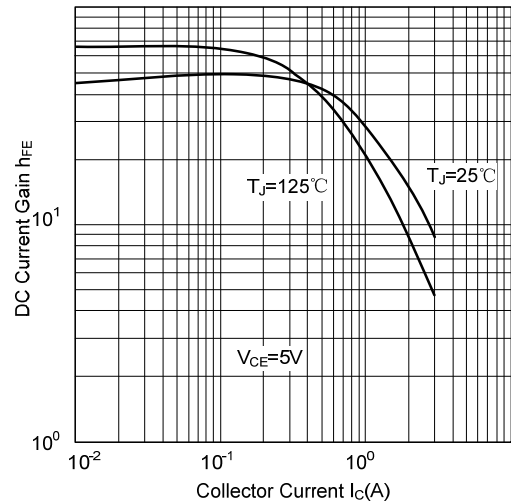
Derating Curve



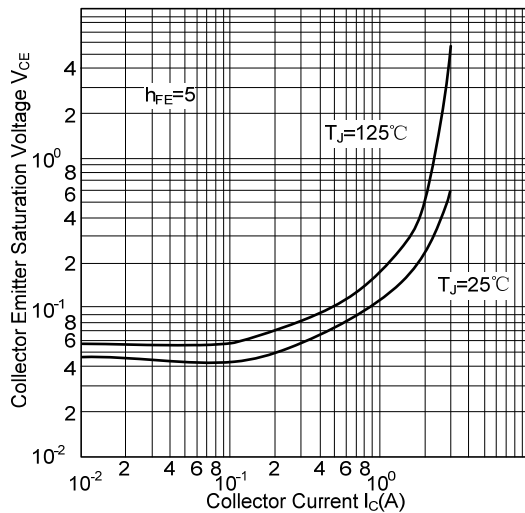
DC Current Gain



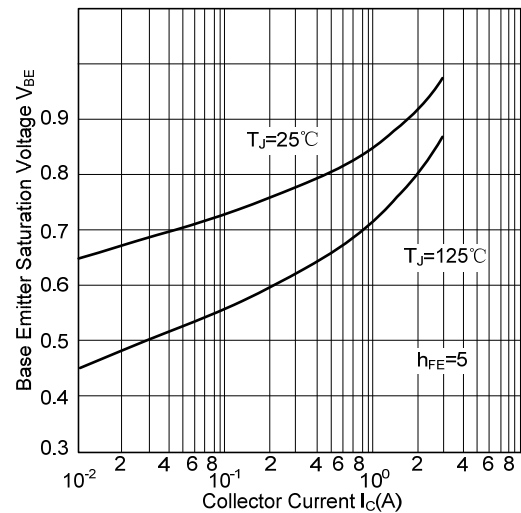
DC Current Gain



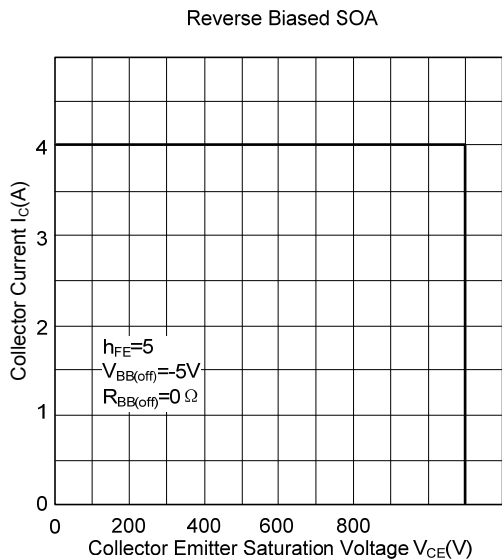
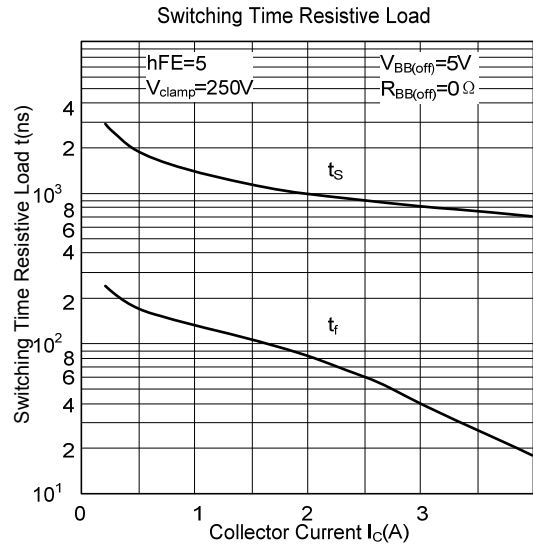
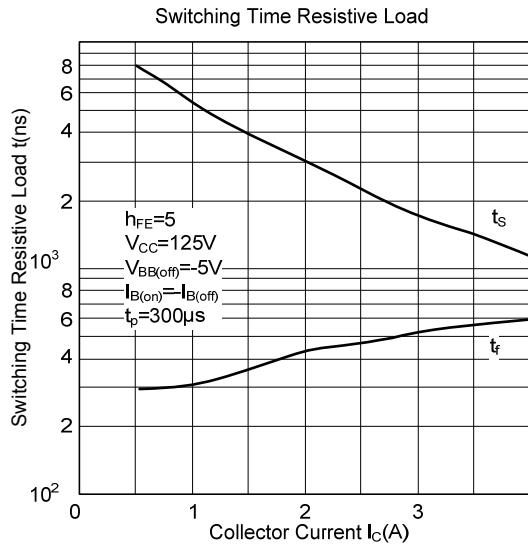
Collector Emitter Saturation Voltage



Base Emitter Saturation Voltage



■ TYPICAL CHARACTERISTICS(Cont.)



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