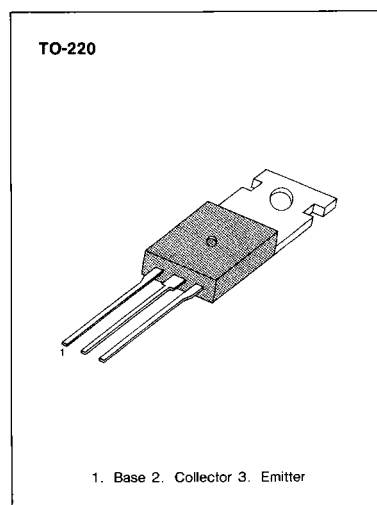


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HIGH SPEED SWITCHING INDUSTRIAL USE

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	150	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	12	V
Collector Current (DC)	I_C	5	A
Collector Current (Pulse)	I_C	10	A
Collector Dissipation ($T_a = 25^\circ\text{C}$)	P_C	1.5	W
Collector Dissipation ($T_c = 25^\circ\text{C}$)	P_C	30	W
Base Current	I_B	2.5	A
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~150	$^\circ\text{C}$



* $PW \leq 300\mu\text{s}$, Duty Cycle $< 10\%$

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

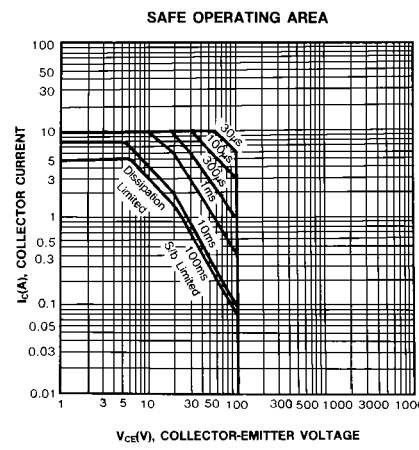
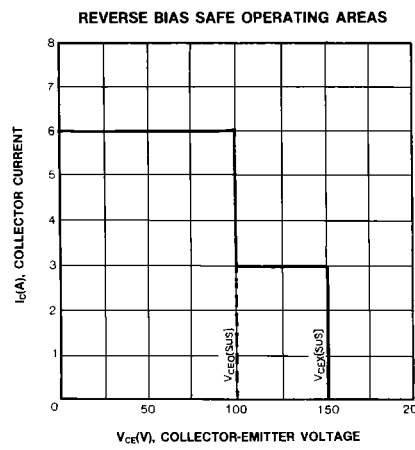
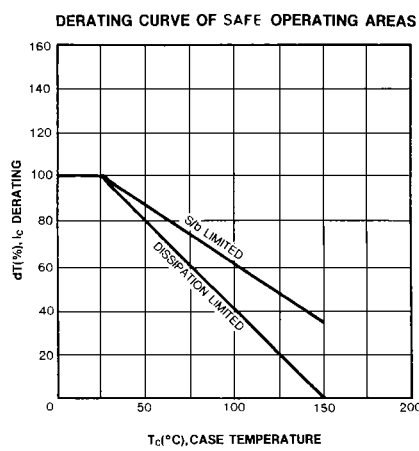
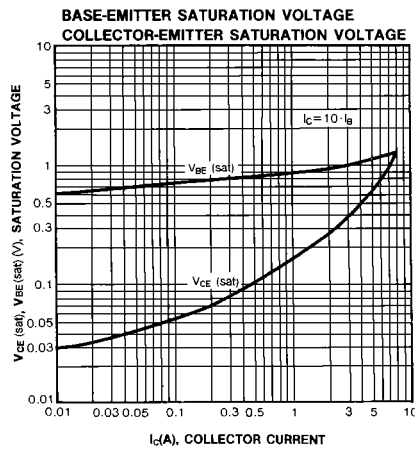
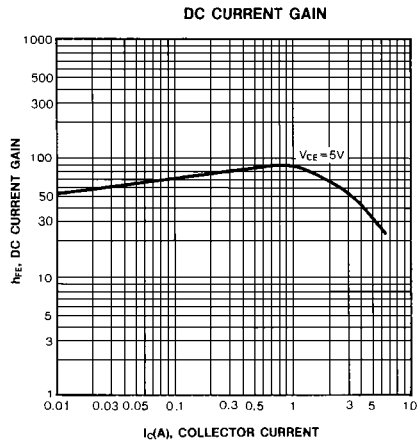
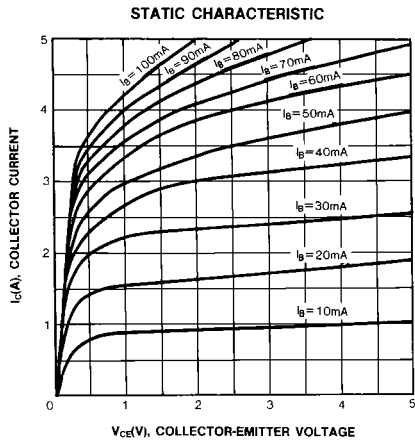
Characteristic	Symbol	Test Condition	Min	Max	Unit
Collector Emitter Sustaining Voltage	V_{CEO} (sus)	$I_C = 3A, I_{B1} = 0.3A, L = 1\text{mH}$	100		V
Collector Emitter Sustaining Voltage	V_{CEX} (sus)1	$I_C = 3A, I_{B1} = -I_{B2} = 0.3A$ $V_{BE}(\text{off}) = -5V, L = 180\mu\text{H}$ Clamped	150		V
Collector Emitter Sustaining Voltage	V_{CEX} (sus)2	$I_C = 6A, I_{B1} = 1.2A,$ $I_{B2} = -0.3A, V_{BE}(\text{off}) = -5V$ $L = 180\mu\text{H}$, Clamped	100		V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 100V, I_E = 0$		10	μA
Collector Cutoff Current	I_{CER}	$V_{CE} = 100V, R_{BE} = 51\Omega$ $T_a = 125^\circ\text{C}$		1	mA
Collector Cutoff Current	I_{CEX1}	$V_{CE} = 100V, V_{BE}(\text{off}) = -1.5V$		10	μA
Collector Cutoff Current	I_{CEX2}	$V_{CE} = 100V, T_a = 125^\circ\text{C}$ $V_{BE}(\text{off}) = -1.5V$		1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 10V, I_C = 0$		10	μA
*DC Current Gain	h_{FE1}	$V_{CE} = 5V, I_C = 0.2A$	40		
	h_{FE2}	$V_{CE} = 5V, I_C = 2A$	40	200	
*Collector-Emitter Saturation Voltage	$V_{CE}(\text{sat})$	$I_C = 3A, I_B = 0.3A$		0.6	V
*Base-Emitter Saturation Voltage	$V_{BE}(\text{sat})$	$I_C = 3A, I_B = 0.3A$		1.5	V
Turn On Time	t_{on}	$I_C = 3A, R_L = 17\Omega, V_{CC} = 50V$		0.5	μs
Storage Time	t_s	$I_{B1} = -I_{B2} = 0.3A$		2.5	μs
Fall Time	t_f			0.5	μs

*Pulse Test: $PW \leq 350\mu\text{s}$, Duty Cycle $\leq 2\%$

$h_{FE}(2)$ CLASSIFICATION

Classification	R	O	Y
$h_{FE}(2)$	40-80	60-120	100-200

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