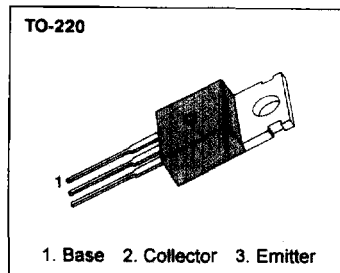


**HIGH SPEED HIGH VOLTAGE SWITCHING  
INDUSTRIAL USE**

- Complement to KSC2334

**ABSOLUTE MAXIMUM RATINGS**

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	- 100	V
Collector-Emitter Voltage	$V_{CEO}$	- 100	V
Emitter-Base Voltage	$V_{EBO}$	- 7	V
Collector Current (DC)	$I_C$	- 7	A
Collector Current (Pulse)	$I_C$	- 15	A
Base Current (DC)	$I_B$	- 3.5	A
Collector Dissipation ( $T_C=25^\circ\text{C}$ )	$P_C$	40	W
Collector Dissipation ( $T_A=25^\circ\text{C}$ )	$P_C$	1.5	W
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  $\leq 10\%$

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

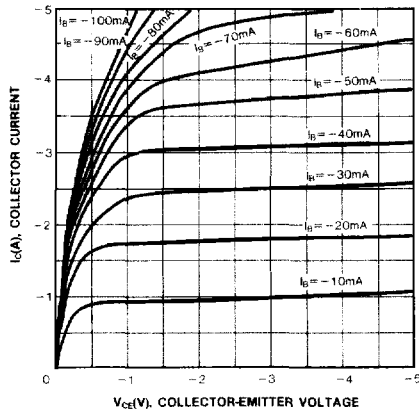
Characteristic	Symbol	Test Condition	Min	Max	Unit
Collector Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = - 5A, I_B1 = - 0.5A, L = 1mH$	- 100		V
Collector Emitter Sustaining Voltage	$V_{CEX(sus)1}$	$I_C = - 5A, I_B1 = - I_B2 = - 0.5A$ $V_{BE(off)} = 5V, L = 180\mu H$ Clamped	- 100		V
Collector Emitter Sustaining Voltage	$V_{CEX(sus)2}$	$I_C = - 10A, I_B1 = - 1A$ $I_B2 = 0.5A, V_{BE(off)} = 5V$ $L = 180\mu H$ , Clamped	- 100		V
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = - 100V, I_E = 0$		- 10	$\mu\text{A}$
Collector Cutoff Current	$I_{CER}$	$V_{CE} = - 100V, R_{BE} = 51\Omega$ $T_A = 125^\circ\text{C}$		- 1	mA
Collector Cutoff Current	$I_{CEX1}$	$V_{CE} = - 100V, V_{BE(off)} = 1.5V$		- 10	$\mu\text{A}$
Collector Cutoff Current	$I_{CEX2}$	$V_{CE} = - 100V, V_{BE(off)} = 1.5V$ $T_A = 125^\circ\text{C}$		- 1	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = - 5V, I_C = 0$		- 10	$\mu\text{A}$
*DC Current Gain	$h_{FE1}$	$V_{CE} = - 5V, I_C = - 0.5A$	40		
	$h_{FE2}$	$V_{CE} = - 5V, I_C = - 3A$	40	200	
	$h_{FE3}$	$V_{CE} = - 5V, I_C = - 5A$	20		
*Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = - 5A, I_B = - 0.5A$		- 0.6	V
*Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = - 5A, I_B = - 0.5A$		- 1.5	V
Turn On Time	$t_{ON}$	$I_C = - 5A, R_L = 10\Omega$		0.5	$\mu\text{s}$
Storage Time	$t_S$	$I_B1 = - I_B2 = - 0.5A$		1.5	$\mu\text{s}$
Fall Time	$t_F$	$V_{CC} = - 50V$		0.5	$\mu\text{s}$

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

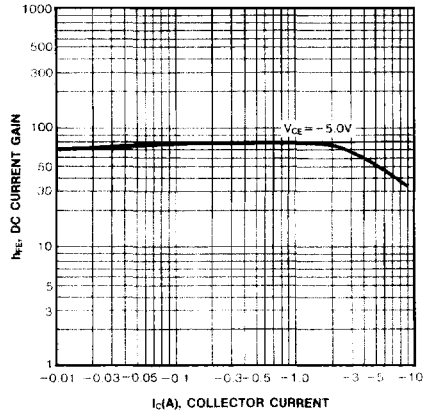
 **$h_{FE}$  (2) CLASSIFICATION**

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

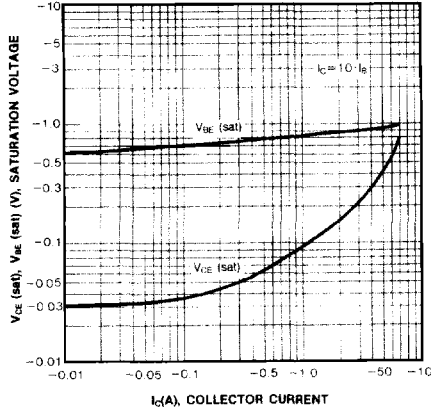
STATIC CHARACTERISTIC



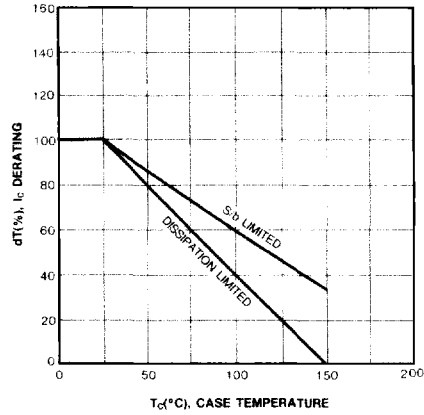
DC CURRENT GAIN



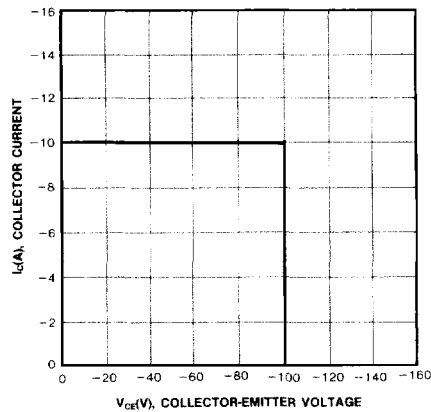
BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE



DERATING CURVE OF SAFE OPERATING AREAS



REVERSE BIAS SAFE OPERATING AREAS



SAFE OPERATING AREA

