

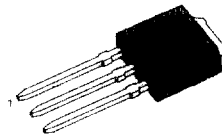
**HIGH SPEED
HIGH VOLTAGE SWITCHING
INDUSTRIAL USE**

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Base Voltage	V_{CBO}	500	V
Collector Emitter Voltage	V_{CEO}	400	V
Emitter Base Voltage	V_{EBO}	7	V
Base Current	I_B	0.25	A
Collector Current (DC)	I_C	0.5	A
*Collector Current (Pulse)	I_C	1	A
Collector Dissipation ($T_A=25^\circ\text{C}$)	P_C	1	W
Collector Dissipation ($T_C=25^\circ\text{C}$)	P_C	10	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 $\leq 10\%$

I-PAK



1. Base 2. Collector 3. Emitter

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

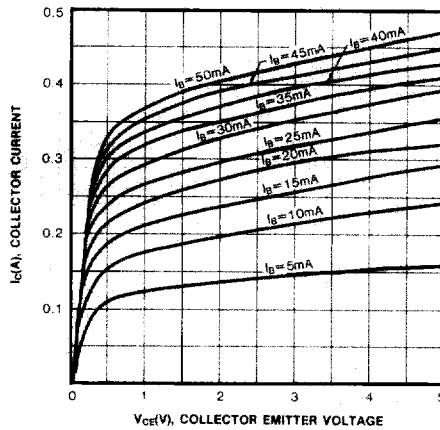
Characteristic	Symbol	Test Condition	Min	Max	Unit
Collector Emitter Sustaining Voltage	$V_{CE(sus)}$	$I_C = 0.3\text{A}$, $I_{B1} = 0.06\text{A}$, $L = 10\text{mH}$	400		V
Collector Emitter Sustaining Voltage	$V_{CEX(sus)1}$	$I_C = 0.3\text{A}$, $I_{B1} = -I_{B2} = 0.06\text{A}$ $V_{BE(off)} = -5\text{V}$, $L = 10\text{mH}$	450		V
Collector Emitter Sustaining Voltage	$V_{CEX(sus)2}$	$I_C = 0.6\text{A}$, $I_{B1} = 0.2$, $L = 10\text{mH}$ $I_{B2} = -0.06$, $V_{BE(off)} = -5\text{V}$	400		V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 400\text{V}$, $I_E = 0$		10	μA
Collector Cutoff Current	I_{CER}	$V_{CE} = 400\text{V}$, $R_{BE} = 51\Omega$, $T_A = 125^\circ\text{C}$		1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{V}$, $I_C = 0$		10	μA
Collector Cutoff Current	I_{CEX1}	$V_{CE} = 400\text{V}$, $V_{BE(off)} = -1.5\text{V}$		10	μA
Collector Cutoff Current	I_{CEX2}	$V_{CE} = 400\text{V}$, $V_{BE(off)} = -1.5\text{V}$ $T_A = 125^\circ\text{C}$		1	mA
DC Current Gain	h_{FE1}	$V_{CE} = 5\text{V}$, $I_C = 0.05\text{A}$	20	80	
	h_{FE2}	$V_{CE} = 5\text{V}$, $I_C = 0.3\text{A}$	10		
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 0.3\text{A}$, $I_B = 0.06\text{A}$		1	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 0.3\text{A}$, $I_B = 0.06\text{A}$		1.2	V
Turn On Time	t_{ON}	$I_C = 0.3\text{A}$, $R_L = 500\Omega$		1	μs
Storage Time	t_{STG}	$I_{B1} = -I_{B2} = 0.06\text{A}$, $V_{CC} = 150\text{V}$		2.5	μs
Fall Time	t_F	$PW = 50\mu\text{s}$, Duty Cycle $\leq 2\%$		1	μs

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

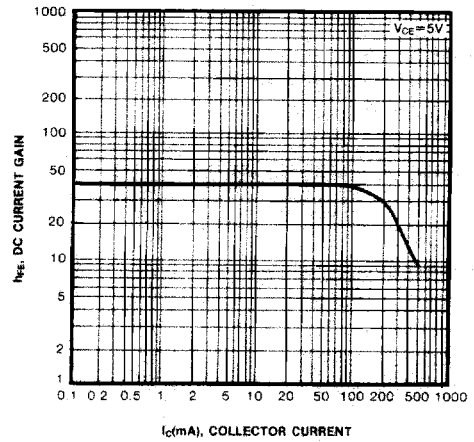
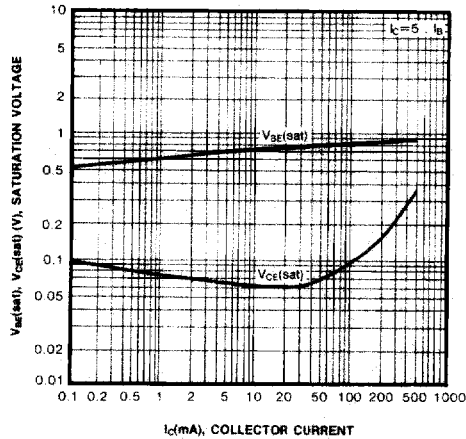
$h_{FE}(1)$ CLASSIFICATION

Classification	R	O	Y
h_{FE1}	20 ~ 40	30 ~ 60	40 ~ 80

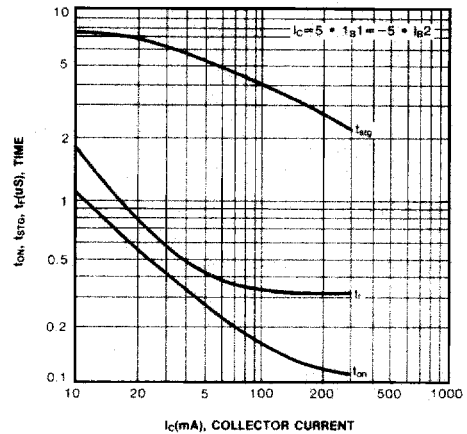
STATIC CHARACTERISTIC



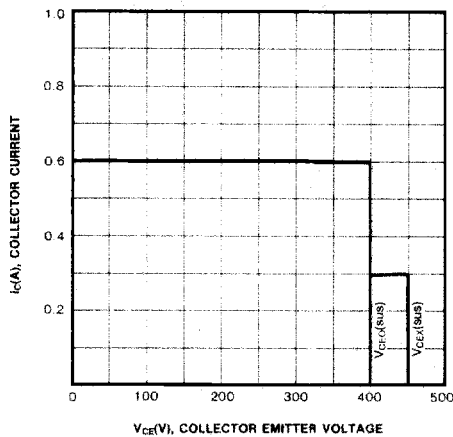
DC CURRENT GAIN

BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE

SWITCHING TIME



REVERSE BIAS SAFE OPERATION AREA



SAFE OPERATING AREA

