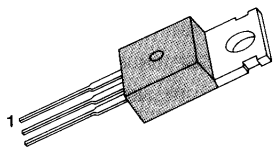
KSC5021 NPN SILICON TRANSISTOR

HIGH VOLTAGE AND HIGH RELIABILITY

HIGH SPEED SWITCHING : tf = 0.1μs (Typ)
WIDE SOA

TO-220



1.Base 2.Collector 3.Emitter

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	800	V
Collector-Emitter Voltage	V_{CEO}	500	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current (DC)	I_C	5	A
Collector Current (Pulse)	I_C	10	A
Base Current	I_B	2	A
Collector Dissipation (T_C=25℃)	P_C	50	W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55 ~ 150	℃

ELECTRICAL CHARACTERISTICS (Tc =25℃)

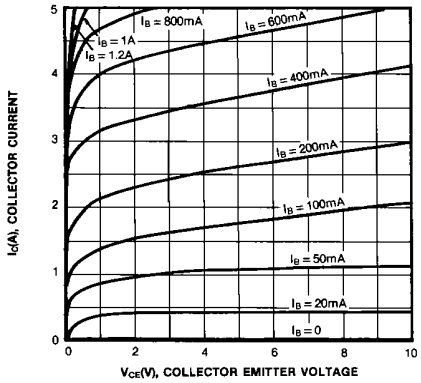
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Base Breakdown Voltage	BV_{CBO}	I_C = 1mA, I_E = 0	800			V
Collector Emitter Breakdown Voltage	BV_{CEO}	I_C = 5mA, R_{BE} = ∞	500			V
Emitter Base Breakdown Voltage	BV_{EBO}	I_E = 1mA, I_C = 0	7			V
Collector Emitter Sustaining Voltage	V_{CEX}(sus)	I_C = 2.5A, I_B1 = -I_B2 = 1A L = 1mH, Clamped	500			V
Collector Cutoff Current	I_{CBO}	V_{CB} = 500V, I_E = 0			10	uA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 5V, I_C = 0			10	uA
DC Current Gain	$h_{FE}1$	V_{CE} = 5V, I_C = 0.6A	15		50	
	$h_{FE}2$	V_{CE} = 5V, I_C = 3A	8			
Collector Emitter Saturation Voltage	V_{CE}(sat)	I_C = 3A, I_B = 0.6A			1	V
Base Emitter Saturation Voltage	V_{BE}(sat)	I_C = 3A, I_B = 0.6A			1.5	V
Output Capacitance	C_{OB}	V_{CB} = 10V, I_E = 0, f = 1MHz		80		pF
Current Gain Bandwidth Product	f_T	V_{CE} = 10V, I_C = 0.6A		18		MHz
Turn On Time	t_{ON}	V_{CC} = 200V			0.5	uS
Storage Time	t_S	5I_B1 = -2.5I_B2 = I_C = 4A			3	uS
Fall Time	t_F	RL = 50Ω			0.3	uS

h_{FE}(1) CLASSIFICATION

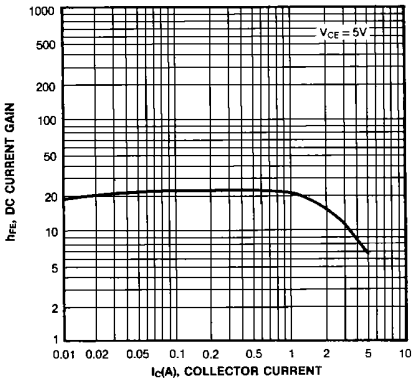
Classification	R	O	Y
$h_{FE}1$	15-30	20-40	30-50

SAMSUNG ELECTRONICS

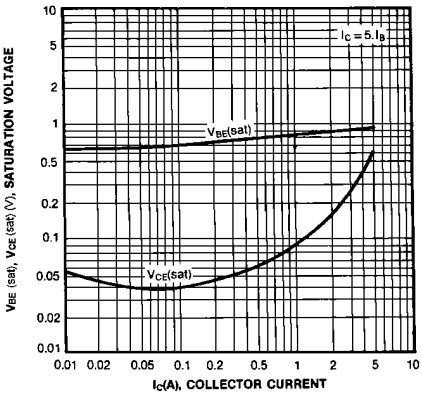
STATIC CHARACTERISTIC



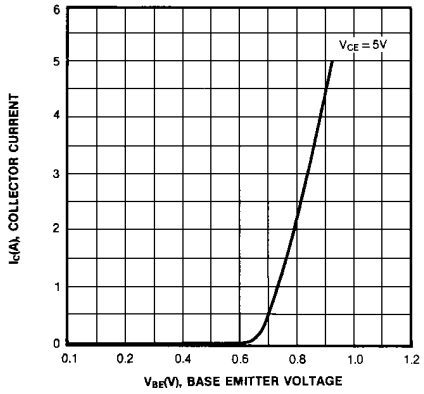
DC CURRENT GAIN



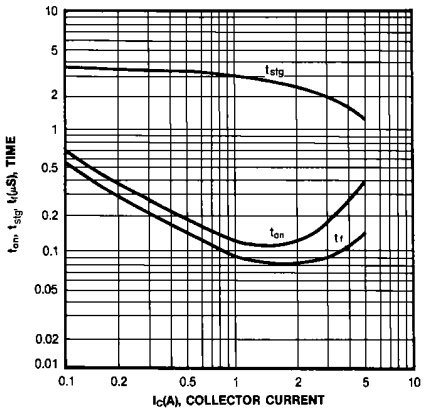
BASE EMITTER SATURATION VOLTAGE
COLLECTOR EMITTER SATURATION VOLTAGE



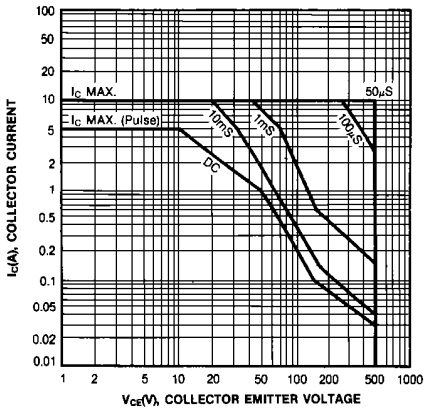
BASE EMITTER ON VOLTAGE



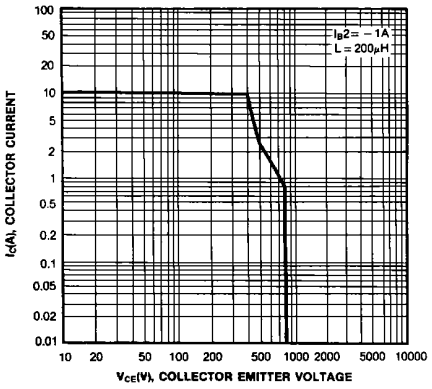
SWITCHING TIME



SAFE OPERATING AREA



REVERSE BIAS SAFE OPERATING AREA



POWER DERATING