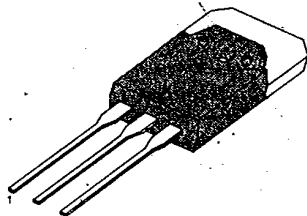


KSC5030**NPN SILICON TRANSISTOR****HIGH VOLTAGE AND HIGH RELIABILITY**HIGH SPEED SWITCHING
WIDE SOA**ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)**

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	1100	V
Collector-Emitter Voltage	V_{CE0}	800	V
Emitter-Base Voltage	V_{EB0}	7	V
Collector Current (DC)	I_C	6	A
Collector Current (Pulse)	I_{C1}	20	A
Base Current	I_B	3	A
Collector Dissipation	P_C	100	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~150	$^\circ\text{C}$

TO-3P



1. Base 2. Collector 3. Emitter

3

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

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Base Breakdown Voltage	BV_{CB0}	$I_C = 1\text{mA}, I_E = 0$	1100			V
Collector Emitter Breakdown Voltage	BV_{CE0}	$I_C = 5\text{mA}, R_{BE} = \infty$	800			V
Emitter Base Breakdown Voltage	BV_{EB0}	$I_E = 1\text{mA}, I_C = 0$	7			V
Collector Emitter Sustaining Voltage	$V_{CE(sus)}$	$I_C = 3\text{A}, I_B = -I_{B2} = 0.6\text{A}$ $L = 1\text{mH}$, Clamped	800			V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 800\text{V}, I_E = 0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$			10	μA
DC Current Gain	h_{FE1} h_{FE2}	$V_{CE} = 5\text{V}, I_C = 0.4\text{A}$ $V_{CE} = 5\text{V}, I_C = 2\text{A}$	10 8		40	
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 3\text{A}, I_B = 0.6\text{A}$			2	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 3\text{A}, I_B = 0.6\text{A}$			1.5	V
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$		120		pF
Current Gain Bandwidth Product	f_T	$V_{CE} = 10\text{V}, I_C = 0.4\text{A}$		15		MHz
Trun On Time	t_{on}	$V_{CC} = 400\text{V}$			0.5	μs
Storage Time	t_s	$5I_{B1} = -2.5I_{B2} = I_C = 4\text{A}$			3	μs
Fall Time	t_f	$RL = 100\Omega$			0.3	μs

 h_{FE} (1) CLASSIFICATION

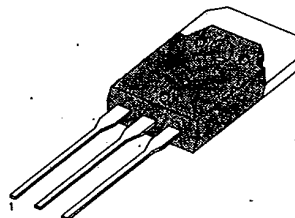
Classification	N	R	O
$h_{FE} 1$	10-20	15-30	20-40



KSC5031**NPN SILICON TRANSISTOR****HIGH VOLTAGE AND HIGH RELIABILITY**HIGH SPEED SWITCHING
WIDE SOA**ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)**

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	1100	V
Collector-Emitter Voltage	V_{CE0}	800	V
Emitter-Base Voltage	V_{EB0}	7	V
Collector Current (DC)	I_C	8	A
Collector Current (Pulse)	I_C	25	A
Base Current	I_B	4	A
Collector Dissipation	P_C	140	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~150	$^\circ\text{C}$

TO-3P



1. Base 2. Collector 3. Emitter

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

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Base Breakdown Voltage	BV_{CB0}	$I_C=1\text{mA}, I_E=0$	1100			V
Collector Emitter Breakdown Voltage	BV_{CE0}	$I_C=5\text{mA}, R_{th}=\infty$	800			V
Emitter Base Breakdown Voltage	BV_{EB0}	$I_E=1\text{mA}, I_C=0$	7			V
Collector Emitter Sustaining Voltage	$V_{CE(sus)}$	$I_C=4\text{A}, 2I_B1=-I_B2=0.8\text{A}$ $L=1\text{mH}$, Clamped	800			V
Collector Cutoff Current	I_{CB0}	$V_{CB}=800\text{V}, I_E=0$			10	μA
Emitter Cutoff Current	I_{EB0}	$V_{EB}=5\text{V}, I_C=0$			10	μA
DC Current Gain	h_{FE1}	$V_{CE}=5\text{V}, I_C=0.6\text{A}$	10		40	
	h_{FE2}	$V_{CE}=5\text{V}, I_C=3\text{A}$	8			
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=4\text{A}, I_B=0.8\text{A}$			2	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=4\text{A}, I_B=0.8\text{A}$			1.5	V
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		155		pF
Current Gain Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=0.6\text{A}$		15		MHz
Turn On Time	t_{on}	$V_{CC}=400\text{V}$			0.5	μs
Storage Time	t_S	$SI_B1=-2.5I_B2=I_C=6\text{A}$			3	μs
Fall Time	t_f	$R_L=66.7\Omega$			0.3	μs

 h_{FE} (1) CLASSIFICATION

Classification	N	R	O
$h_{FE} 1$	10-20	15-30	20-40



KSD73**NPN EPITAXIAL SILICON TRANSISTOR**

T-33-09

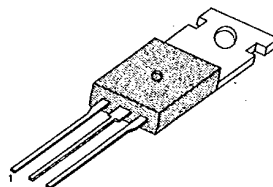
LOW FREQUENCY HIGH POWER AMPLIFIER

- Collector-Base Voltage $V_{CB0} = 100V$
- Collector Current $I_C = 5A$
- Collector Dissipation $P_C = 30W$ ($T_C = 25^\circ C$)

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	100	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EB0}	5	V
Collector Current	I_C	5	A
Collector Dissipation ($T_C = 25^\circ C$)	P_C	30	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-55 ~ 150	$^\circ C$

TO-220



1. Base 2. Collector 3. Emitter

3

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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 1mA, I_E = 0$	100			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 20mA, I_B = 0$	60			V
Emitter-Base Breakdown Voltage	BV_{EB0}	$I_E = -1mA, I_C = 0$	5			V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 100V, I_E = 0$			5	mA
DC Current Gain	h_{FE}	$V_{CE} = 10V, I_C = 1.0A$	70		240	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5A, I_B = 0.5A$			2.0	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 5A, I_B = 0.5A$			1.5	V
Current-Gain Bandwidth Product	f_T	$V_{CE} = 10V, I_C = 0.3A$		20		MHz
Base-Emitter On Voltage	$V_{BE(on)}$	$V_{CE} = 10V, I_C = 1.0A$		0.75		V

 h_{FE} CLASSIFICATION

Classification	O	Y
h_{FE}	70-140	120-240

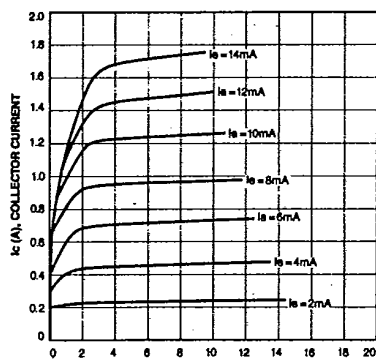


KSD73

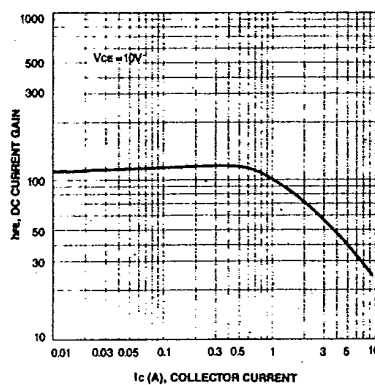
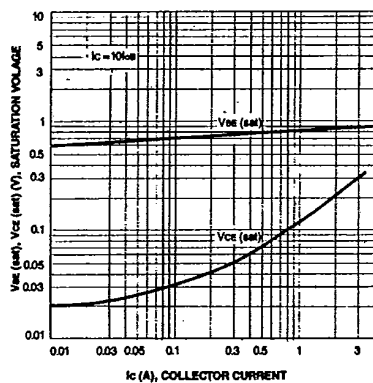
NPN EPITAXIAL SILICON TRANSISTOR

T-33-09

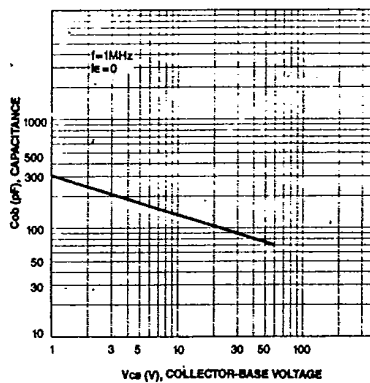
STATIC CHARACTERISTIC



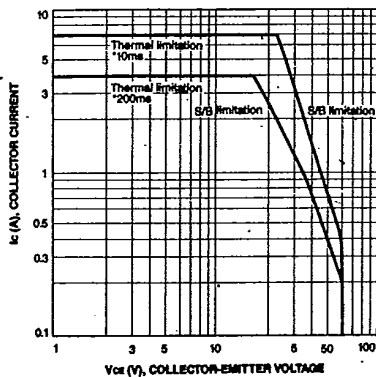
DC CURRENT GAIN

BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE

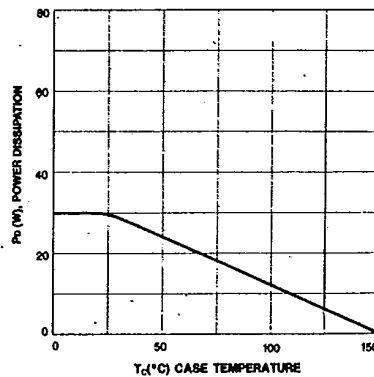
COLLECTOR OUTPUT CAPACITANCE



SAFE OPERATING AREA



POWER DERATING



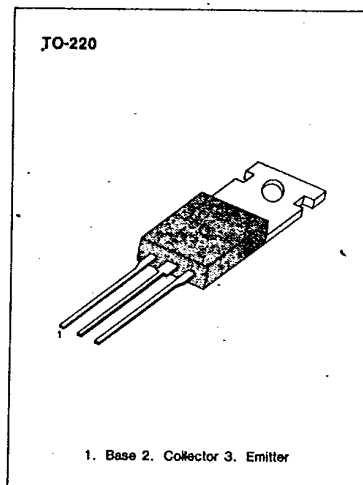
SAMSUNG SEMICONDUCTOR

KSD288**NPN EPITAXIAL SILICON TRANSISTOR****POWER REGULATOR
LOW FREQUENCY POWER AMPLIFIER**

- Complement to KSA614
- Collector-Base Voltage $V_{CB0} = 80V$
- Collector Dissipation $P_C = 25W$ ($T_C = 25^\circ C$)

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	80	V
Collector-Emitter Voltage	V_{CE0}	55	V
Emitter-Base Voltage	V_{EB0}	5	V
Collector Current	I_C	8	A
Collector Dissipation ($T_C = 25^\circ C$)	P_C	25	W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{stg}	-55 ~ +150	$^\circ C$

**3****ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)**

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C = 500\mu A, I_E = 0$	80			V
Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C = 10mA, I_B = 0$	55			V
Emitter-Base Breakdown Voltage	BV_{EB0}	$I_E = -500\mu A, I_C = 0$	5			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 50V, I_E = 0$			50	μA
DC Current Gain	h_{FE}	$V_{CE} = 5V, I_C = 0.5A$	40		240	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1A, I_B = 0.1A$			1	V

 h_{FE} CLASSIFICATION

Classification	R	O	Y
h_{FE}	40-80	70-140	120-240

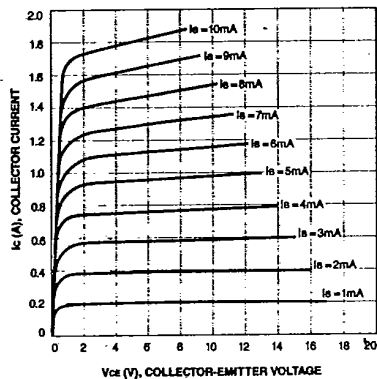


KSD288

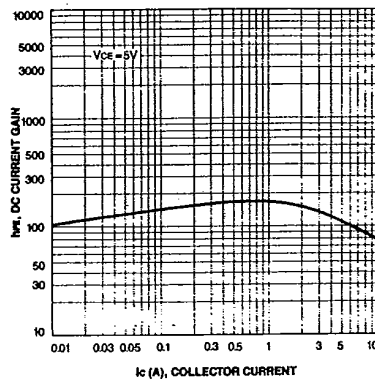
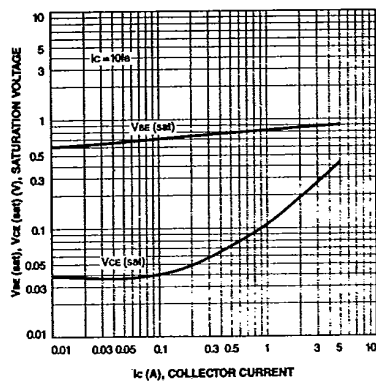
NPN EPITAXIAL SILICON TRANSISTOR

T-33-09

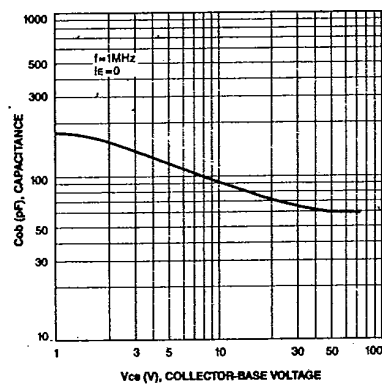
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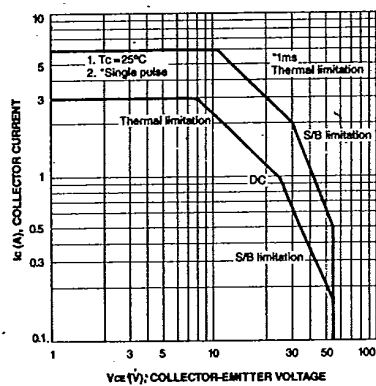
DC CURRENT GAIN

BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE

COLLECTOR OUTPUT CAPACITANCE



SAFE OPERATING AREA



POWER DERATING

