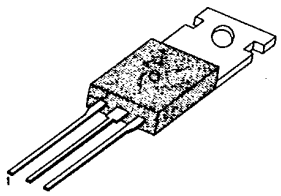
KSD362 NPN EPITAXIAL SILICON TRANSISTOR

T-33-11

B/W TV HORIZONTAL DEFLECTION OUTPUT

- **Collector-Base Voltage V_{CBO}=150V**
- **Collector Current I_C=5A**
- **Collector Dissipation P_C=40W (T_C=25°C)**

TO-220



1. Base 2. Collector 3. Emitter

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	150	V
Collector-Emitter Voltage	V_{CEO}	70	V
Emitter-Base Voltage	V_{EBO}	8	V
Collector Current	I_C	5	A
Collector Dissipation (T_C=25°C)	P_C	40	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55 ~ +150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=1mA, I_E=0	150			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=20mA, R_{BE}=∞	70			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=1mA, I_C=0	8			V
Collector Cutoff Current	I_{CBO}	V_{CB}=100V, I_E=0			20	μA
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=5A	20		140	
Collector-Emitter Saturation Voltage	V_{CE} (sat)	I_C=5A, I_B=0.5A			1	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}=5V, I_C=0.5A		10		MHz

h_{FE} CLASSIFICATION

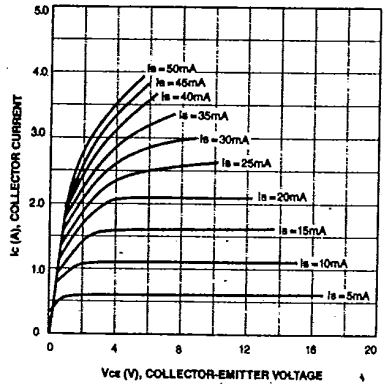
Classification	N	R	O
h_{FE}	20-50	40-80	70-140

3

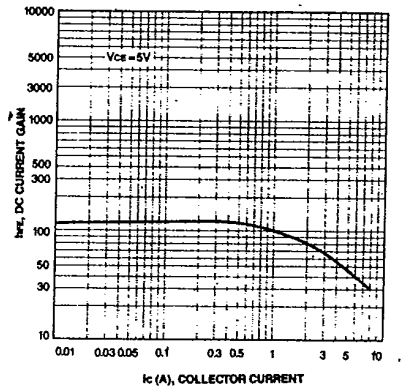
KSD362 NPN EPITAXIAL SILICON TRANSISTOR

T-33-11

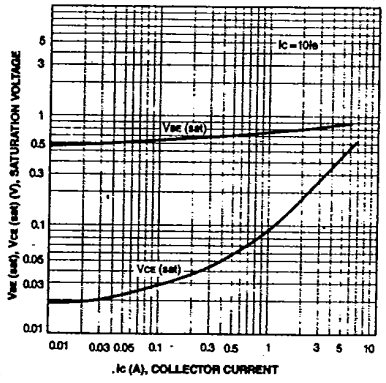
STATIC CHARACTERISTIC



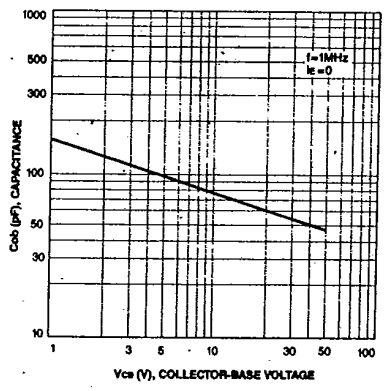
DC CURRENT GAIN



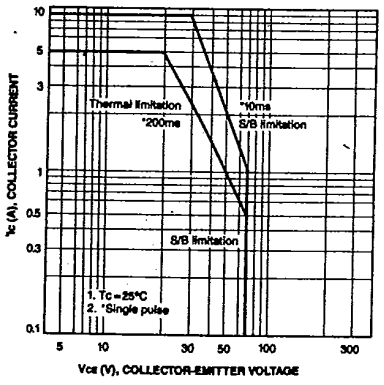
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



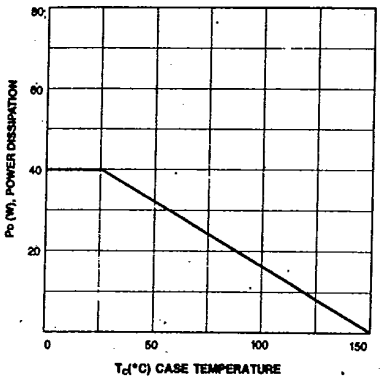
COLLECTOR OUTPUT CAPACITANCE



SAFE OPERATING AREA



POWER DERATING



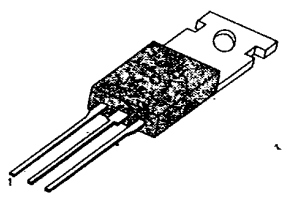
KSD363 NPN EPITAXIAL SILICON TRANSISTOR

T-33-11

B/W TV HORIZONTAL DEFLECTION OUTPUT

- **Collector-Base Voltage V_{CBO}=300V**
- **Collector Current I_C=6A**
- **Collector Dissipation P_C=40W (T_C=25°C)**

TO-220



1. Base 2. Collector 3. Emitter

3

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	300	V
Collector-Emitter Voltage	V_{CEO}	120	V
Emitter-Base Voltage	V_{EBO}	8	V
Collector Current	I_C	6	A
Collector Dissipation (T_C=25°C)	P_C	40	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55 ~ +150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=1mA, I_E=0	300			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=20mA, I_B=0	120			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=−1mA, I_C=0	8			V
Collector Cut-off Current	I_{CBO}	V_{CB}=250V, I_E=0			1	mA
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=1A	40		240	
Collector-Emitter Saturation Voltage	V_{CE} (sat)	I_C=1A, I_B=0.1A			1	V
Base-Emitter Saturation Voltage	V_{BE} (sat)	I_C=1A, I_B=0.1A			1.5	V
Current Gain-Band width Product	f_T	V_{CE}=5V, I_C=0.5A		10		MHz

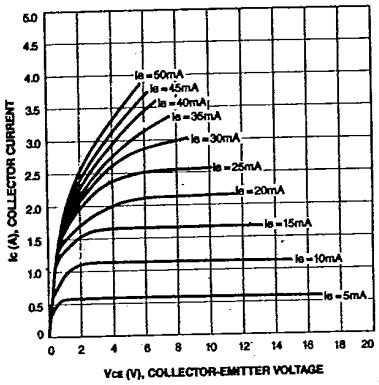
h_{FE} CLASSIFICATION

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

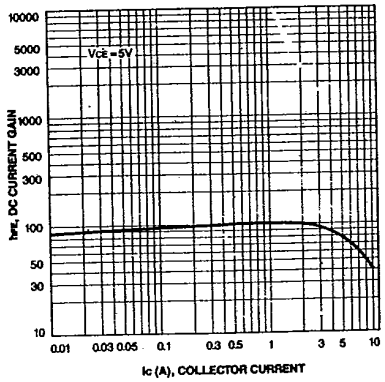
KSD363 NPN EPITAXIAL SILICON TRANSISTOR

T-33-11

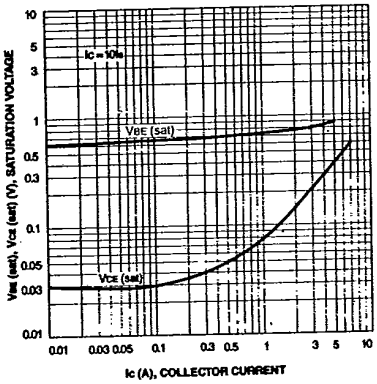
STATIC CHARACTERISTIC



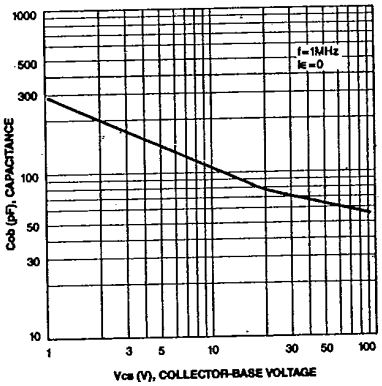
DC CURRENT GAIN



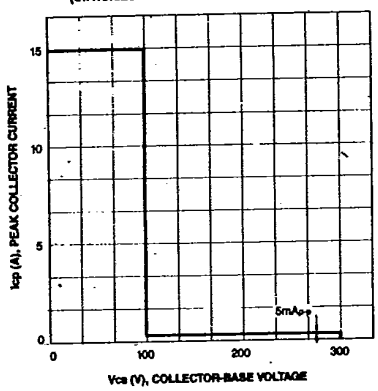
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



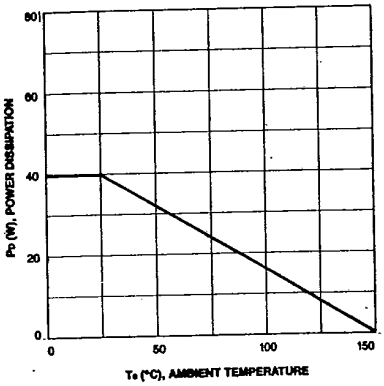
COLLECTOR OUTPUT CAPACITANCE



SAFE OPERATING AREA
(On HORIZONTAL DEFLECTION OUTPUT CIRCUIT)



POWER DERATING



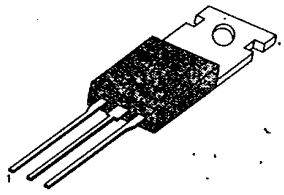
KSD526 NPN EPITAXIAL SILICON TRANSISTOR

T-33-09

POWER AMPLIFIER APPLICATIONS

- Complement to KSB596

TO-220



1. Base 2. Collector 3. Emitter

3

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	4	A
Base Current	I_B	0.4	A
Collector Dissipation (T_c=25°C)	P_C	30	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55~150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	V_{CB}=80V, I_E=0			30	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V, I_C=0			100	μA
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=50mA, I_B=0	80			V
Emitter Base Breakdown Voltage	BV_{EBO}	I_E=10mA, I_C=0	5			V
DC Current Gain	h_{FE1}	V_{CE}=5V, I_C=0.5A	40		240	
	h_{FE2}	V_{CE}=5V, I_C=3A	15	50		
Collector-Emitter Saturation Voltage	V_{CE} (sat)	I_C=3A, I_B=0.3A		0.45	1.5	V
Base Emitter On Voltage	V_{BE} (on)	V_{CE}=6V, I_C=3A		1	1.5	V
Current Gain-Bandwidth Product	f_T	V_{CE}=5V, I_C=0.5A	3	8		MHz
Collector Output Capacitance	Cob	V_{CB}=10V, I_E=0, f=1MHz		90		pF

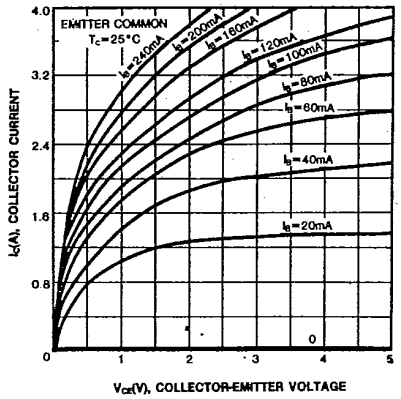
h_{FE}(1) CLASSIFICATION

Classification	R	O	Y
h_{FE}(1)	40-80	70-140	120-240

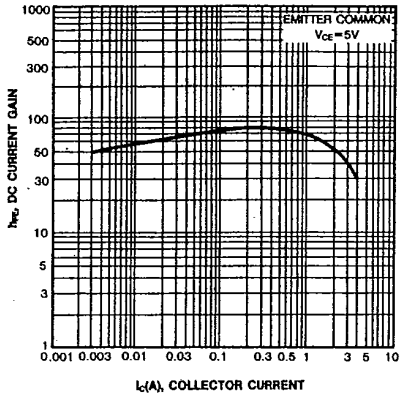
KSD526 NPN EPITAXIAL SILICON TRANSISTOR

T-33-09

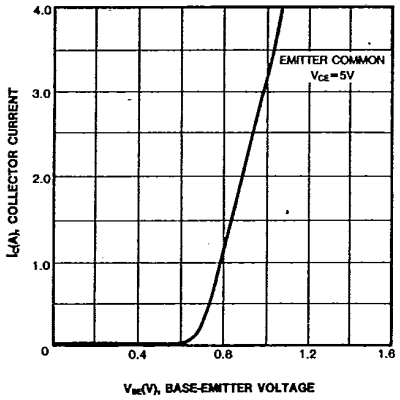
STATIC CHARACTERISTIC



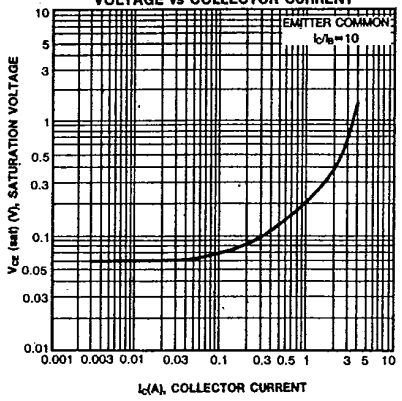
DC CURRENT GAIN



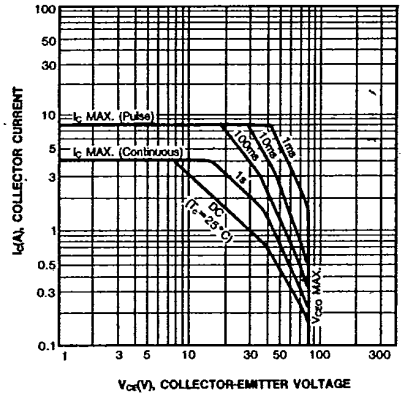
BASE-EMITTER ON VOLTAGE



COLLECTOR-EMITTER SATURATION VOLTAGE vs COLLECTOR CURRENT



SAFE OPERATING AREA



POWER DERATING