KSD5017

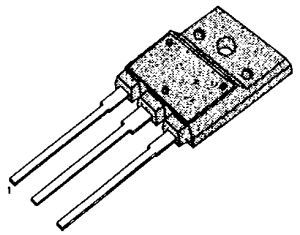
NPN TRIPLE DIFFUSED PLANAR SILICON TRANSISTOR

T-33-11

COLOR TV HORIZONTAL OUTPUT APPLICATIONS

High Collector-Base Voltage V_{CBO}=1500V

TO-3P(F)



1. Base 2. Collector 3. Emitter

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	1500	V
Collector-Emitter Voltage	V_{CEO}	800	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	6	A
Collector Current (Peak)	I_C	16	A
Collector Dissipation (T_C=25°C)	P_C	60	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}=800V, I_E=0			10	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V, I_C=0			1	mA
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=1A	8			
Collector Emitter Saturation Voltage	V_{CE}(sat)	I_C=5A, I_B=1A			5	V
Base-Emitter Saturation Voltage	V_{BE}(sat)	I_C=5A, I_B=1A			1.5	V
Current Gain Bandwidth Product	f_T	V_{CE}=10V, I_C=1A		3		MHz
Fall Time	t_f	I_C=5A, I_{B1}=1A I_{B2}=−2A, RL=40Ω			0.4	μS

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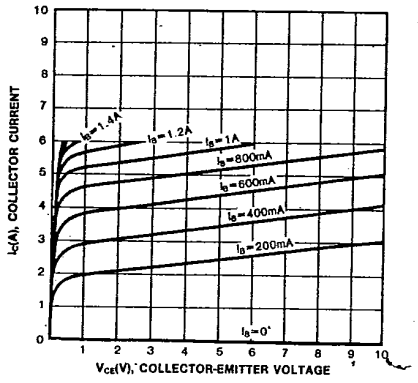
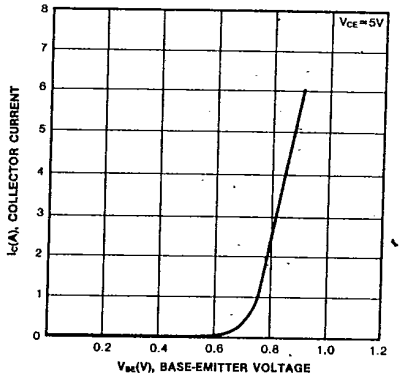
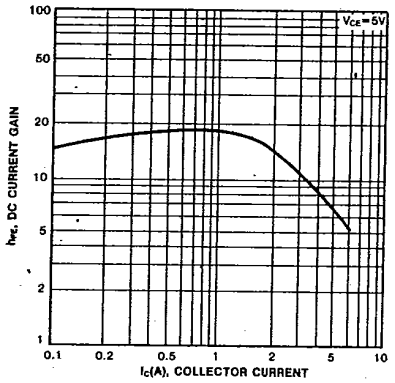
STATIC CHARACTERISTIC



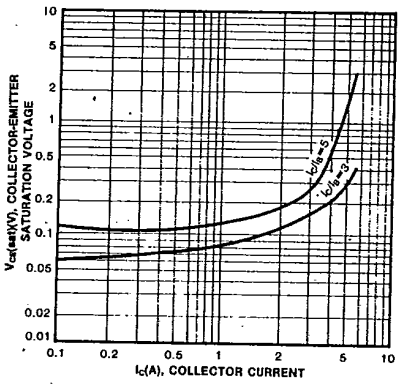
BASE-EMITTER ON VOLTAGE



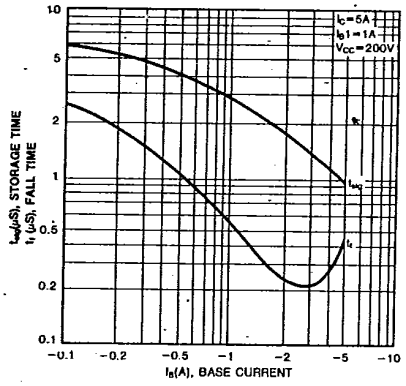
DC CURRENT GAIN



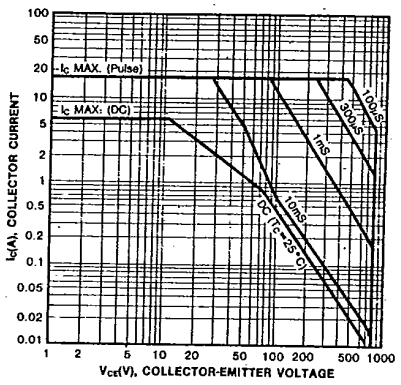
COLLECTOR-EMITTER SATURATION VOLTAGE



TURN ON TIME



SAFE OPERATING AREA



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NPN TRIPLE DIFFUSED PLANAR SILICON TRANSISTOR

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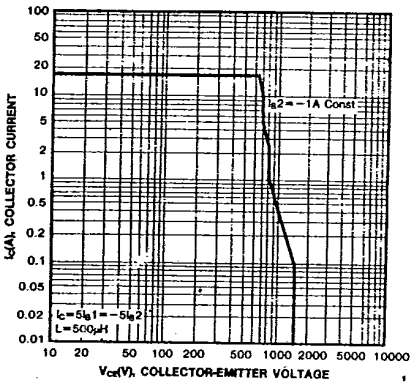
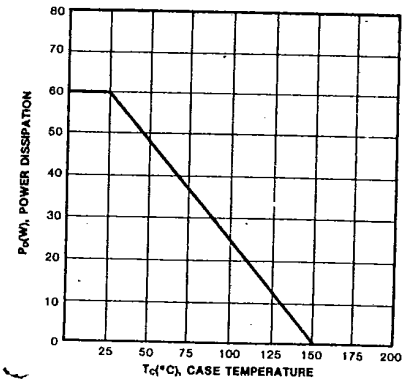
REVERSE BIAS SAFE OPERATING AREA



POWER DERATING



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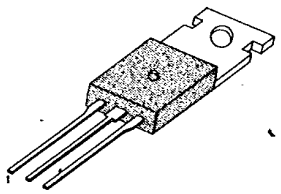
BU406/406H/408 NPN EPITAXIAL SILICON TRANSISTOR

T-33-11

HIGH VOLTAGE SWITCHING
USE IN HORIZONTAL DEFLECTION OUTPUT STAGE

TO-220



1. Base 2. Collector 3. Emitter

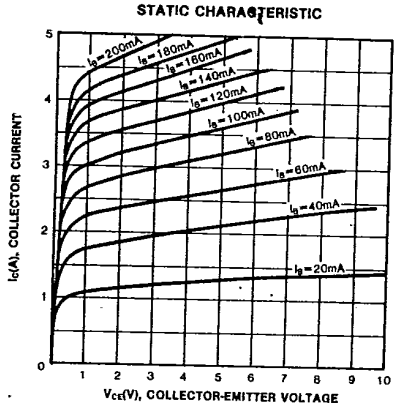
ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	400	V
Collector-Emitter Voltage	V_{CEO}	200	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	7	A
Collector Peck Current	I_{CM}	10	A
Base Current	I_B	4	A
Collector Dissipation	P_C	60	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−65~150	°C

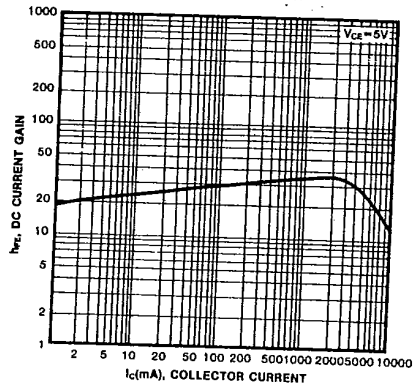
ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Condition	Min	Max	Unit
Collector Cutoff Current (V_{BE}=0)	I_{CES}	V_{CE}=400V, V_{BE}=0		5	mA
		V_{CE}=250V, V_{BE}=0		100	μA
		V_{CE}=250V, V_{BE}=0, T_C=150°C		1	mA
Emitter Cutoff Current (I_C=0)	I_{EBO}	V_{BE}=6V, I_C=0		1	mA
Collector Emitter Saturation Voltage					
: BU406	V_{CE}(sat)	I_C=5A, I_B=0.5A		1	V
: BU406H		I_C=5A, I_B=0.8A		1	V
: BU408		I_C=6A, I_B=1.2A		1	V
Base Emitter Saturation Voltage					
: BU406	V_{BE}(sat)	I_C=5A, I_B=0.5A		1.2	V
: BU406H		I_C=5A, I_B=0.8A		1.2	V
: BU408		I_C=6A, I_B=1.2A		1.5	V
Current Gain-Bandwidth Product	f_T	V_{CE}=10V, I_C=0.5A	10		MHz
Turn-Off Time : BU406	t_{off}	I_C=5A, I_B=0.5A		0.75	μS
: BU406H		I_C=5A, I_B=0.8A		0.4	μS
: BU408		I_C=6A, I_B=1.2A		0.4	μS

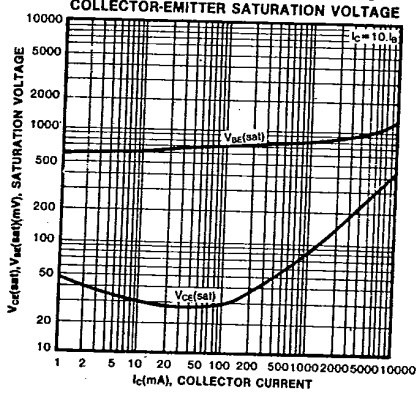
STATIC CHARACTERISTIC



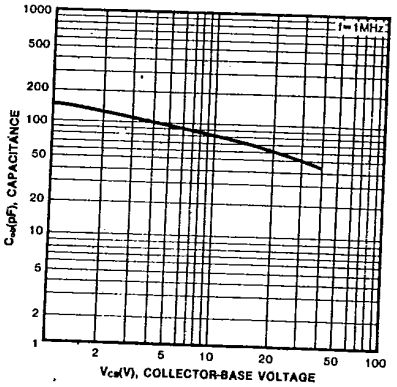
DC CURRENT GAIN



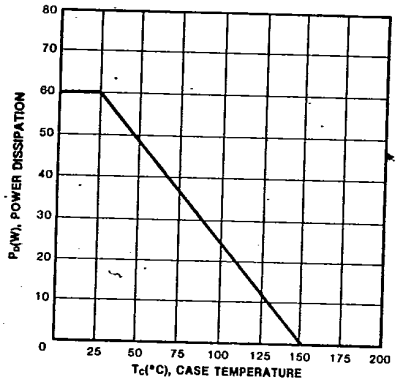
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



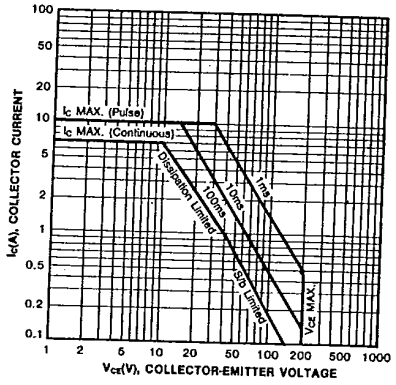
COLLECTOR OUTPUT CAPACITANCE



POWER DERATING



SAFE OPERATING AREA



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