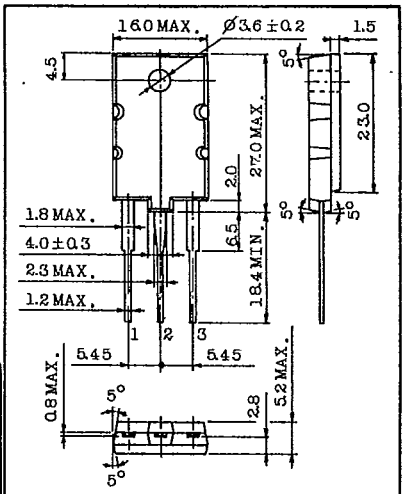
SILICON NPN TRIPLE DIFFUSED MESA TYPE

2SD1428

COLOR TV HORIZONTAL OUTPUT APPLICATIONS.

FEATURES:
- High Voltage : V_{CBO}=1500V
- Low Saturation Voltage : $V_{CE(sat)}$=5V(Max.) (I_C=5A, I_B=1A)
- High Speed : t_f=1.0μs(Max.)
- Built-in Damper Type
- Glass Passivated Collector-Base Junction

Unit in mm



1. BASE
2. COLLECTOR(HEAT SINK)
3. EMITTER

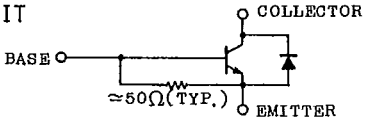
JEDEC	–
EIAJ	–
TOSHIBA	2-16D1A

Weight : 5.2g

MAXIMUM RATINGS (T_c=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	1500	V
Collector-Emitter Voltage	V_{CEO}	600	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	6	A
Emitter Current	I_E	-6	A
Collector Power Dissipation (T_c=25°C)	P_C	80	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

EQUIVALENT CIRCUIT



ELECTRICAL CHARACTERISTICS (T_c=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB}=500V, I_E=0	–	–	10	μA
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=200mA, I_C=0	5	–	–	V
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=1A	8	12	–	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=5A, I_B=1A	–	3	5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=5A, I_B=1A	–	–	1.5	V
Forward Voltage (Damper Diode)	$-V_F$	I_F=6A	–	1.6	2.0	V
Transition Frequency	f_T	V_{CE}=10V, I_C=0.1A	–	3	–	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	–	165	–	pF
Fall Time (Fig.)	t_f	I_{CP}=5A, $I_{B1(end)}$=1A	–	0.5	1.0	μs

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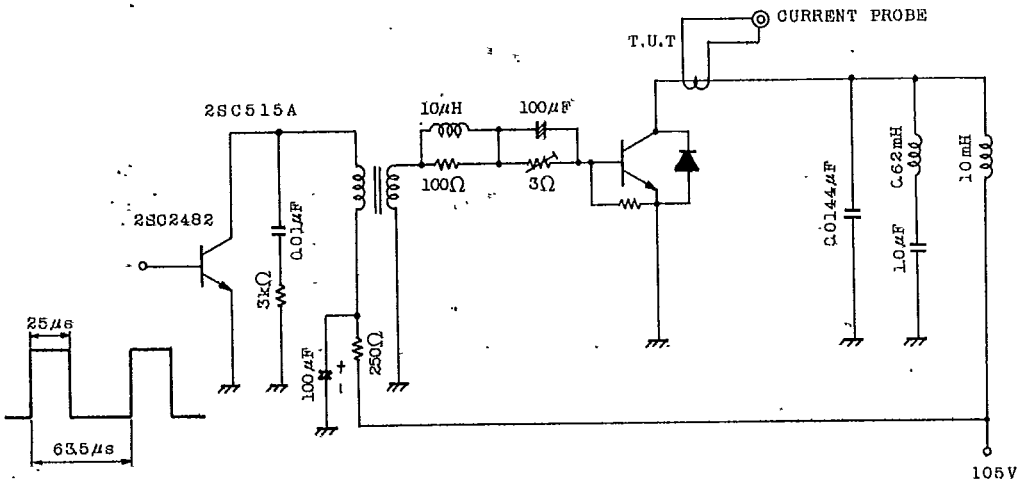
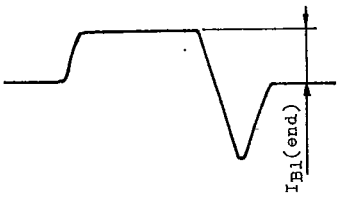
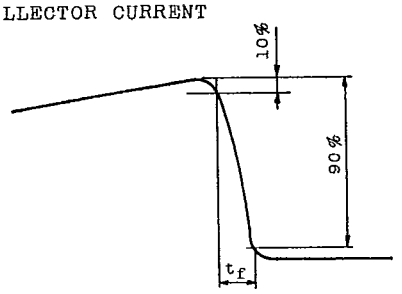
Fig. tf TEST CIRCUIT



BASE CURRENT



COLLECTOR CURRENT



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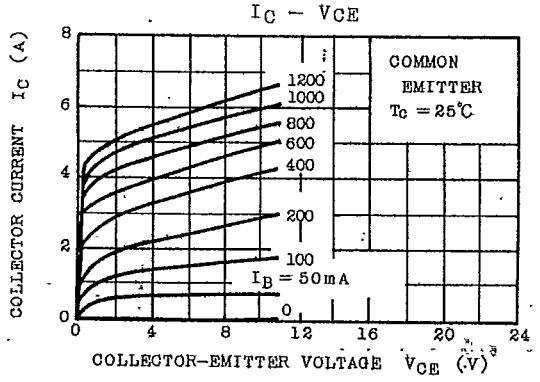
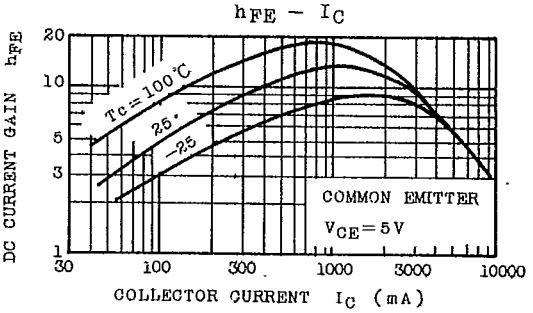
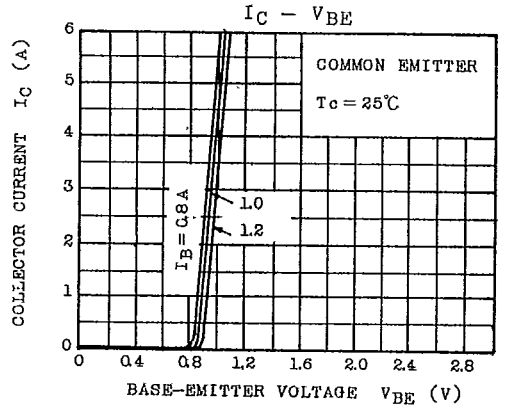
$I_C - V_{CE}$



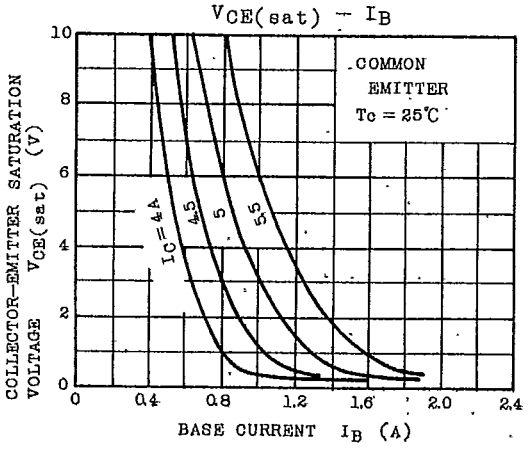
$h_{FE} - I_C$



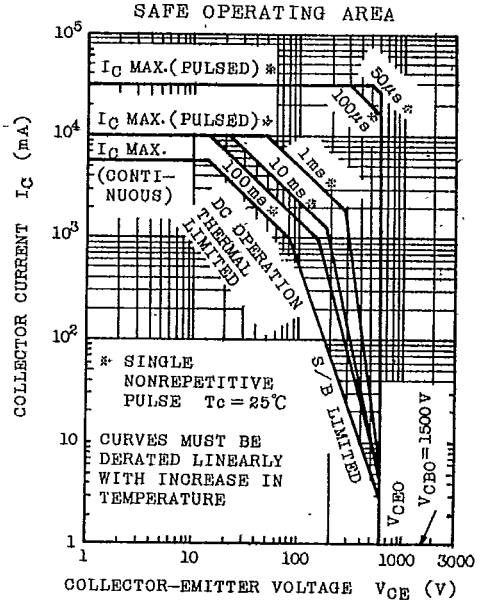
$I_C - V_{BE}$



$V_{CE(sat)} - I_B$



SAFE OPERATING AREA



$P_C - T_C$