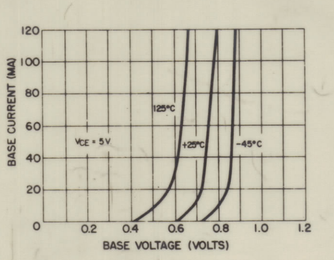
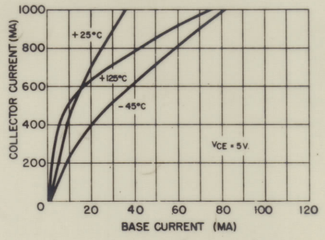
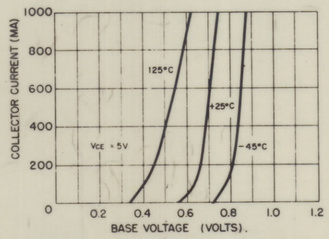
TYPICAL CHARACTERISTICS, COMMON EMITTER



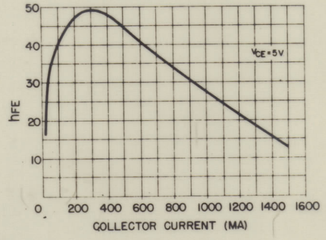
INPUT CHARACTERISTICS



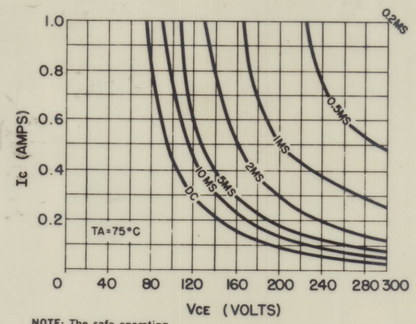
CURRENT TRANSFER CHARACTERISTICS



TRANSCONDUCTANCE CHARACTERISTICS

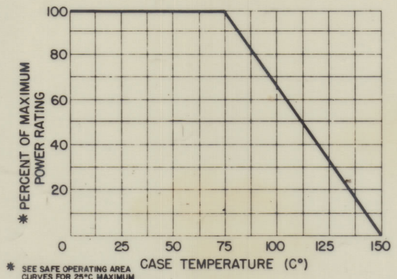


DC BETA CHARACTERISTICS



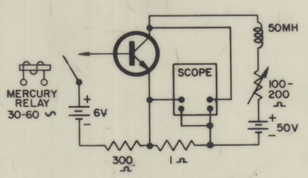
NOTE: The safe operating curves are not constant power hyperbolas. Power derating is required to take into account changes in thermal resistance and other factors.

SAFE OPERATING AREA CURVES

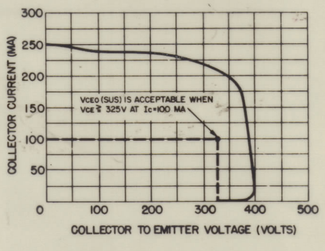


* SEE SAFE OPERATING AREA CURVES FOR 25°C MAXIMUM POWER RATINGS AS A FUNCTION OF COLLECTOR TO EMITTER VOLTAGE.

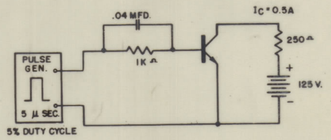
DERATING CURVE



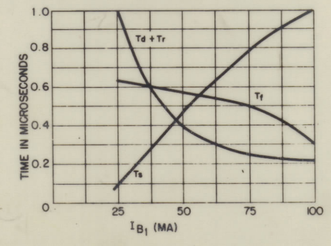
$V_{CBO(sus)}$ TEST CIRCUIT



$V_{CBO(sus)}$ OSCILLOSCOPE DISPLAY

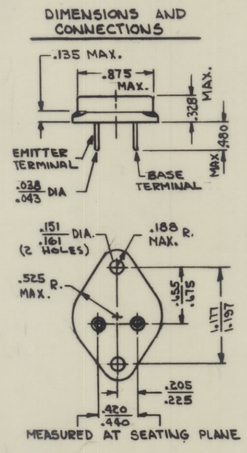


SWITCHING TIME TEST CIRCUIT



TIME IN MICROSECONDS

DIMENSIONS AND CONNECTIONS



MEASURED AT SEATING PLANE

REVISIONS							
ZONE	SYM	DESCRIPTION	DATE	E.M.N. NO.	DRAFT	CHKD	APPD
	Ø	ORIGINAL RELEASE FOR PRODUCTION	6-1-65	—	J		
	A	PT/NO IDENTIFICATION ADDED TO S401	12/20/66	CC	WHO		

ABSOLUTE MAXIMUM RATINGS

Collector diode voltage (V_{CBO})	400V
Emitter diode voltage (V_{EBO})	5V
Collector to emitter voltage (V_{CEO})	400V
Collector Current (I_C)	2.0A
Peak Collector Current (I_C)	5.0A
Base Current (I_B)	1.0A
Maximum power dissipation	75W
Maximum operating junction temp.	150°C
Minimum operating junction temp.	-65°C
Maximum storage temperature	200°C
Lead temperature 1/16" ± 1/32" from case for 10 seconds	300°C

ELECTRICAL CHARACTERISTICS

SYM.	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{EBO}	Emitter diode current	$V_{EBO} = 5V$			5.0	ma
I_{CEX}	Collector to emitter current	$V_{CEX} = 400V$, T = 125°C, $V_{EB} = 1.5V$			0.5	ma
I_{CEO}	Collector to emitter current	$V_{CEO} = 400V$, $I_B = 0$			0.25	ma
h_{FE}	Current gain	$I_C = .5A$, $V_{CE} = 5V$	20		80	
h_{FE}	Current gain	$I_C = 1.0A$, $V_{CE} = 5V$	15			
$V_{CE(sat)}$	Collector to emitter saturation voltage	$I_C = .5A$, $I_B = .05A$		0.3	0.8	volts
$V_{EB(sat)}$	Emitter to base saturation voltage	$I_C = .5A$, $I_B = .05A$		0.9	1.5	volts
*$V_{CEO(sus)}$	Sustaining voltage	$I_C = 100ma$, $I_B = 0$	325			volts
f_t	Gain band width product	$I_C = 200ma$, $V_{CE} = 10V$		6		mc

* See Page 3 for $V_{CEO(sus)}$ Test Circuit.

THERMAL CHARACTERISTICS

	Typical	Max.
Thermal resistance, Junction to heat sink	0.6	1.0°C/Watt

TX111 A

NOTES

REQ'D.	ITEM	PART NUMBER	DESCRIPTION	SYMBOL

LIST OF MATERIAL

Q'TY./UNIT: PSPA-1	MODEL USED ON	ASS'Y. NO.
SCALE	CODE C	S401-396 (DTS-413)

MATERIAL —

FINISH —

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES

DECIMALS .X ± .05, .XX ± .01, .XXX ± .005 — TOLERANCES — FRACTIONS ± 1/64, ANGLES ± 0° 30'

THE TECHNICAL MATERIEL CORP.
MAMARONECK, NEW YORK

TITLE: TRANSISTOR, SILICON

DRAWN	DATE 5-1-65	FINAL APPROVAL	DATE 6/4/65
CHECKED	DATE 5/24/65	TX111	A
ELECT. DES.	DATE	SHEET	REV. LTR.
MECH. DES.	DATE 5/24/65		

TMC FORM 110

REPROVEL NO. 440H 21838