



MMDT2907A

DUAL PNP GENERAL PURPOSE SWITCHING TRANSISTOR

VOLTAGE 60 Volts **POWER** 150 mW

SOT-363 Unit: inch (mm)

FEATURES

- PNP epitaxial silicon, planar design
- Collector-emitter voltage $V_{CE} = -60V$
- Collector current $I_C = -600mA$
- In compliance with EU RoHS 2002/95/EC directives

MECHANICAL DATA

- Case: SOT-363
- Terminals : Solderable per MIL-STD-750, Method 2026
- Apporx. Weight: 0.0002 ounce, 0.006 gram
- Device Marking : M7A

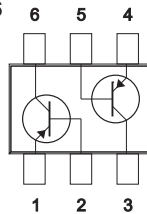
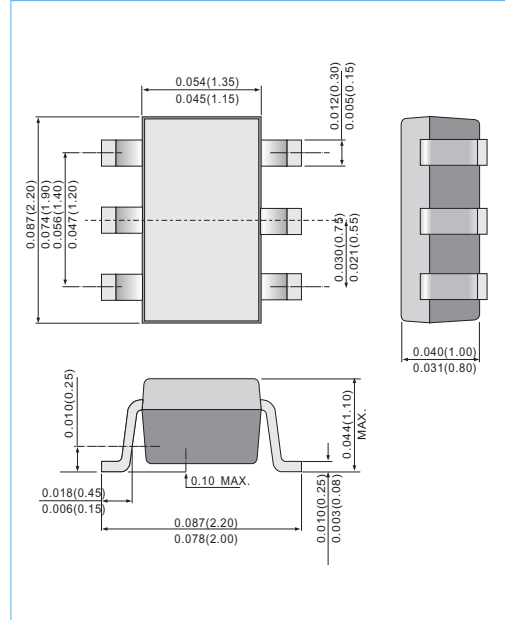


Fig.53



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Units
Collector-Emitter Voltage	V_{CEO}	-60	V
Collector-Base Voltage	V_{CBO}	-60	V
Emitter-Base Voltage	V_{EBO}	-5.0	V
Collector Current-Continuous	I_C	-600	mA

THERMAL CHARACTERISTICS

Parameter	Symbol	Value	Units
Max Power Dissipation (Note 1)	P_{TOT}	150	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	830	$^{\circ}C / W$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}C$
Junction Temperature	T_J	-55 to +150	$^{\circ}C$

Note 1 : Transistor mouted on FR-5 board 1.0 x 0.75 x 0.062 in.



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ELECTRICAL CHARACTERISTICS ($T_J=25^\circ\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Units
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-10\text{mA}, I_B=0$	-60	-	-	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}, I_E=0$	-60	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}, I_C=0$	-5.0	-	-	V
Base Cutoff Current	I_{BL}	$V_{CE}=-30\text{V}, V_{EB}=-0.5\text{V}$	-	-	-50	nA
Collector Cutoff Current	I_{CEX}	$V_{CE}=-30\text{V}, V_{EB}=-0.5\text{V}$	-	-	-50	nA
	I_{CBO}	$V_{CE}=-50\text{V}, I_E=0$	-	-	-10	nA
		$V_{CE}=-50\text{V}, I_E=0$ $T_J=125^\circ\text{C}$	-	-	-10	μA
DC Current Gain	h_{FE}	$I_C=-0.1\text{mA}, V_{CE}=-10\text{V}$ $I_C=-1.0\text{mA}, V_{CE}=-10\text{V}$ $I_C=-10\text{mA}, V_{CE}=-10\text{V}$ $I_C=-150\text{mA}, V_{CE}=-10\text{V}$ $I_C=-500\text{mA}, V_{CE}=-10\text{V}$	75 100 100 100 50	- - - - -	- - - 300 -	-
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=-150\text{mA}, I_B=-15\text{mA}$ $I_C=-500\text{mA}, I_B=-50\text{mA}$	- -	- -	-0.4 -1.6	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=-150\text{mA}, I_B=-15\text{mA}$ $I_C=-500\text{mA}, I_B=-50\text{mA}$	- -	- -	-1.3 -2.6	V
Collector-Base Capacitance	C_{CBO}	$V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$	-	-	8.0	pF
Emitter-Base Capacitance	C_{EBO}	$V_{CB}=-2\text{V}, I_C=0, f=1\text{MHz}$	-	-	30	pF
Current Gain-Bandwidth Product	F_T	$I_C=-50\text{mA}, V_{CE}=-20\text{V}, f=100\text{MHz}$	200	-	-	MHz
Turn-On Time	t_{on}	$V_{CC}=-30\text{V}, V_{BE}=-0.5\text{V}, I_C=-150\text{mA}, I_B=-15\text{mA}$	-	-	45	ns
Delay Time	t_d	$V_{CC}=-30\text{V}, V_{BE}=-0.5\text{V}, I_C=-150\text{mA}, I_B=-15\text{mA}$	-	-	10	ns
Rise Time	t_r	$V_{CC}=-30\text{V}, V_{BE}=-0.5\text{V}, I_C=-150\text{mA}, I_{B1}=-15\text{mA}$	-	-	40	ns
Turn-Off Time	t_{off}	$V_{CC}=-6\text{V}, I_C=-150\text{mA}, I_{B1}=I_{B2}=-15\text{mA}$	-	-	100	ns
Storage Time	t_s	$V_{CC}=-6\text{V}, I_C=-150\text{mA}, I_{B1}=I_{B2}=-15\text{mA}$	-	-	80	ns
Fall Time	t_f	$V_{CC}=-6\text{V}, I_C=-150\text{mA}, I_{B1}=I_{B2}=-15\text{mA}$	-	-	30	ns



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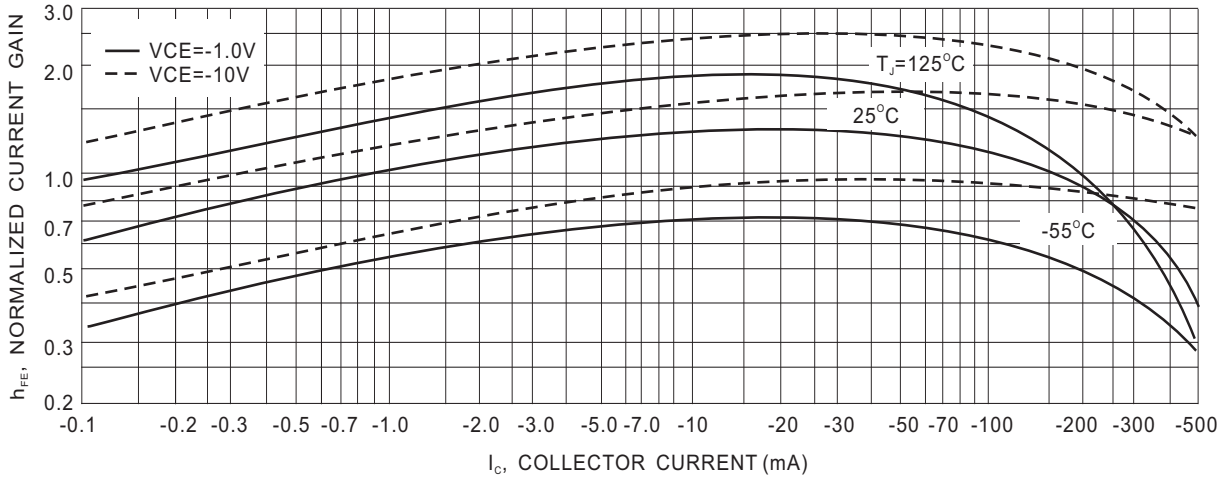


Fig.1-DC Current Gain

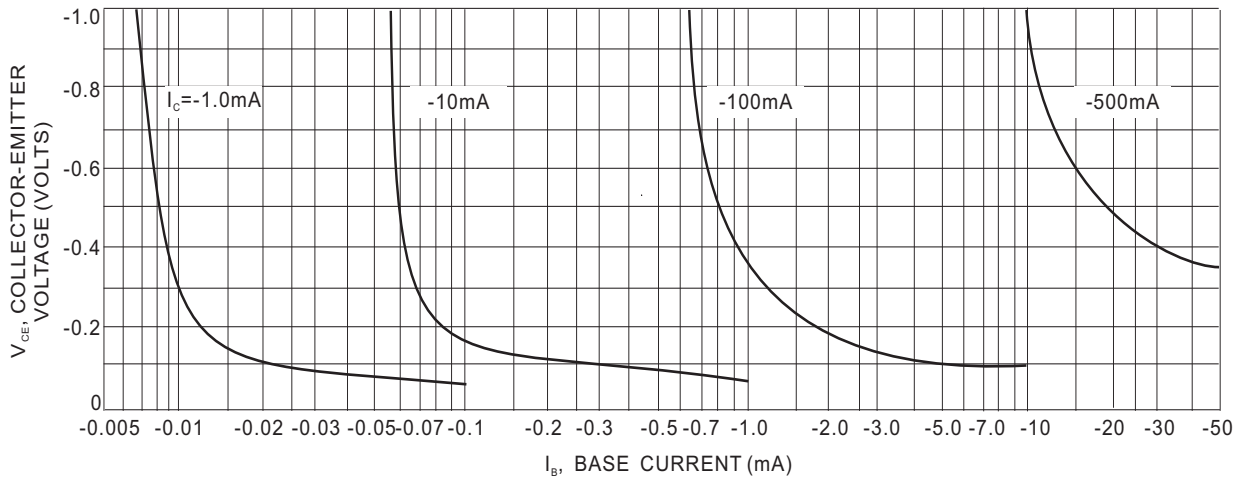


Fig.2-Collector Saturation Region

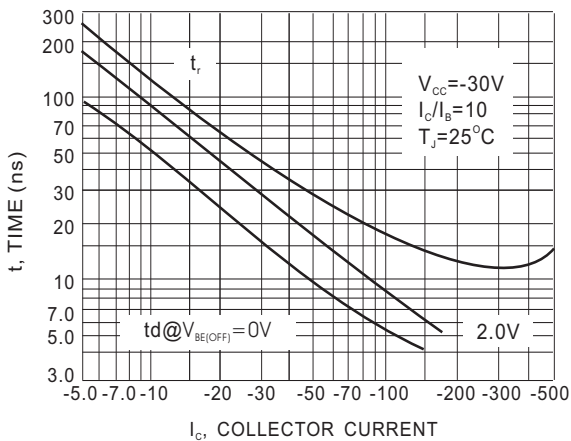


Fig.3-Turn-On Time

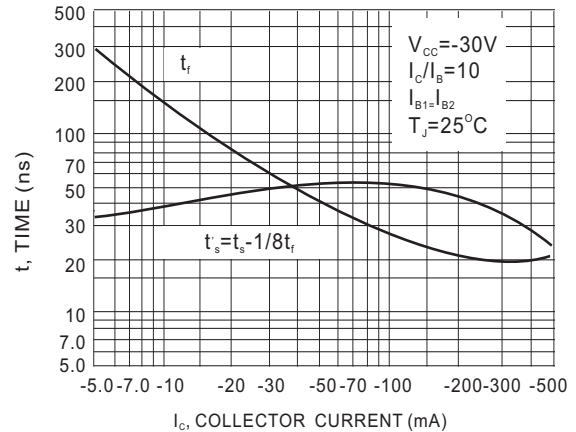


Fig.4-Turn-Off Time



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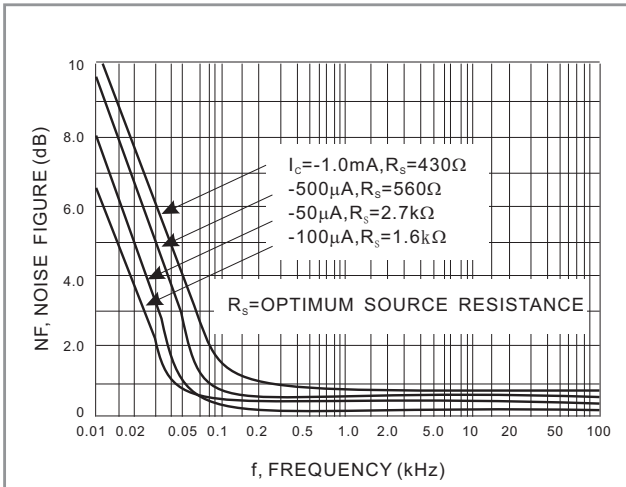


Fig.5-Frequency Effects

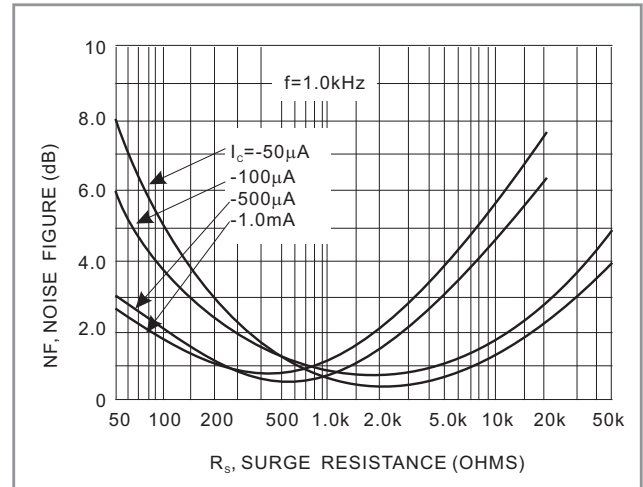


Fig.6-Source Resistance Effects

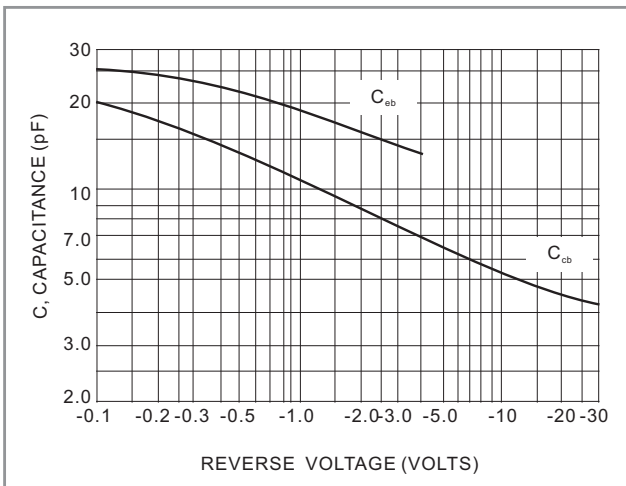


Fig.7-Capacitances

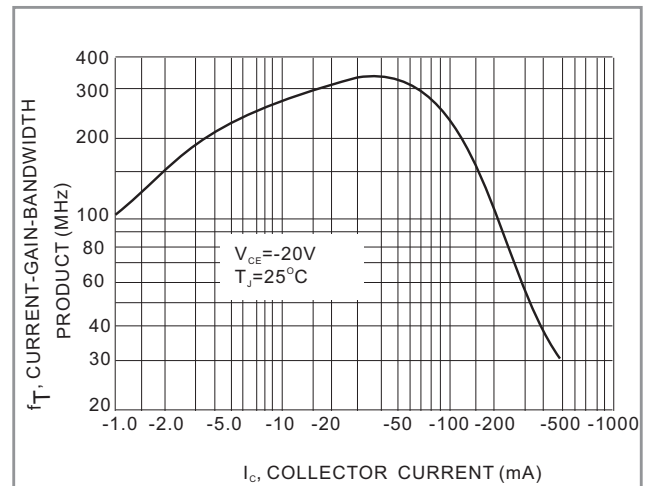


Fig.8-Current-Gain-Bandwidth Product

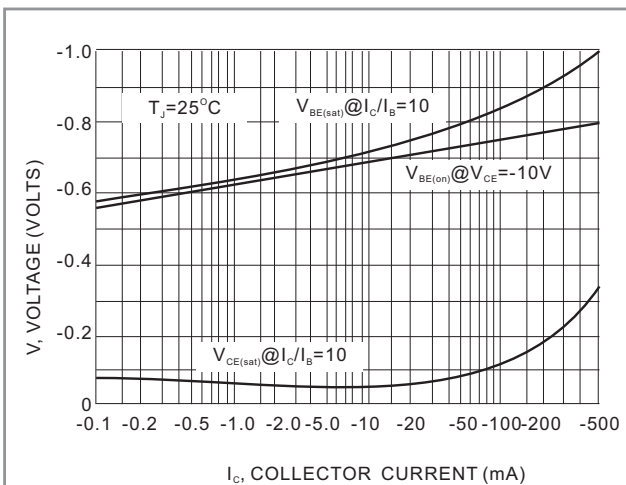


Fig.9-On Voltage

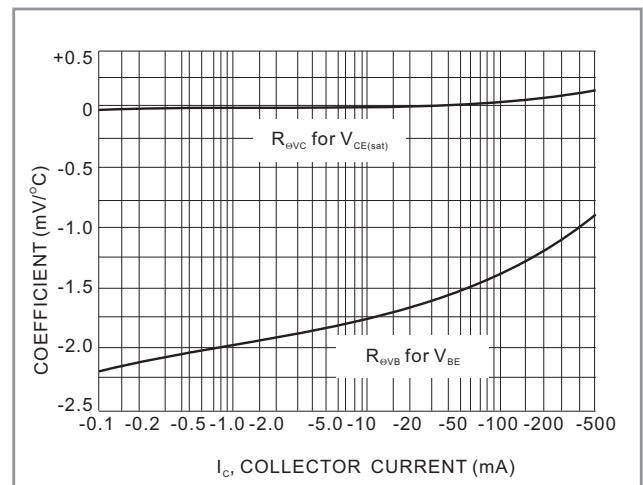
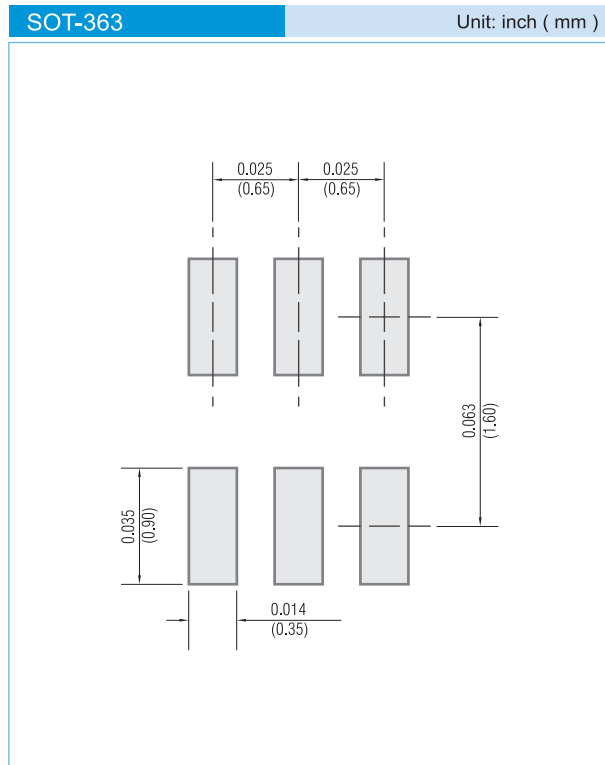


Fig.10-Temperature Coefficients



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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
 - T/R - 10K per 13" plastic Reel
 - T/R - 3K per 7" plastic Reel

LEGAL STATEMENT

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