

MMDT2907A

DUAL PNP GENERAL PURPOSE SWITCHING TRANSISTOR

VOLTAGE	60 Volts	POWER	150 mW
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SOT-363

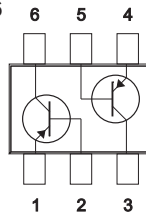
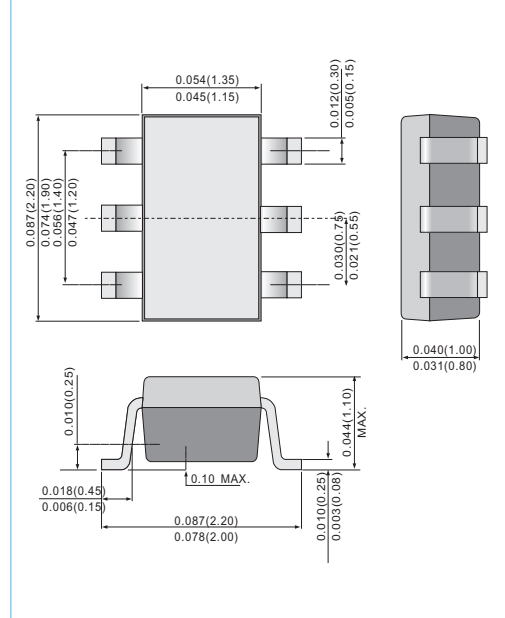
Unit: inch (mm)

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 CHATACTERISTICS

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 Tempereature	T_J	-55 to +150	$^{\circ}C$

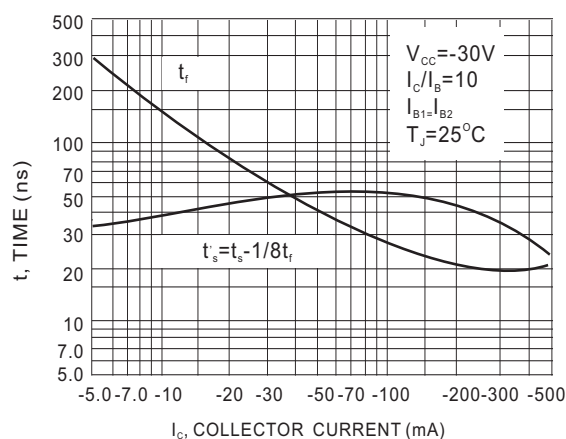
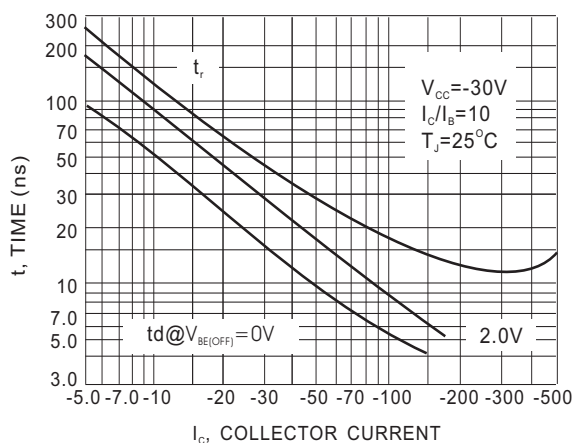
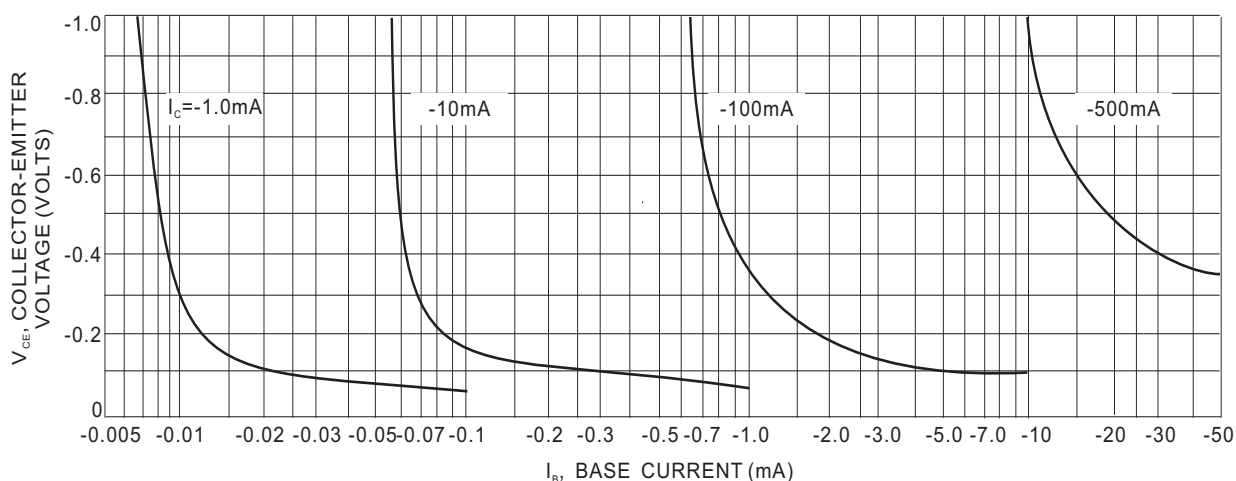
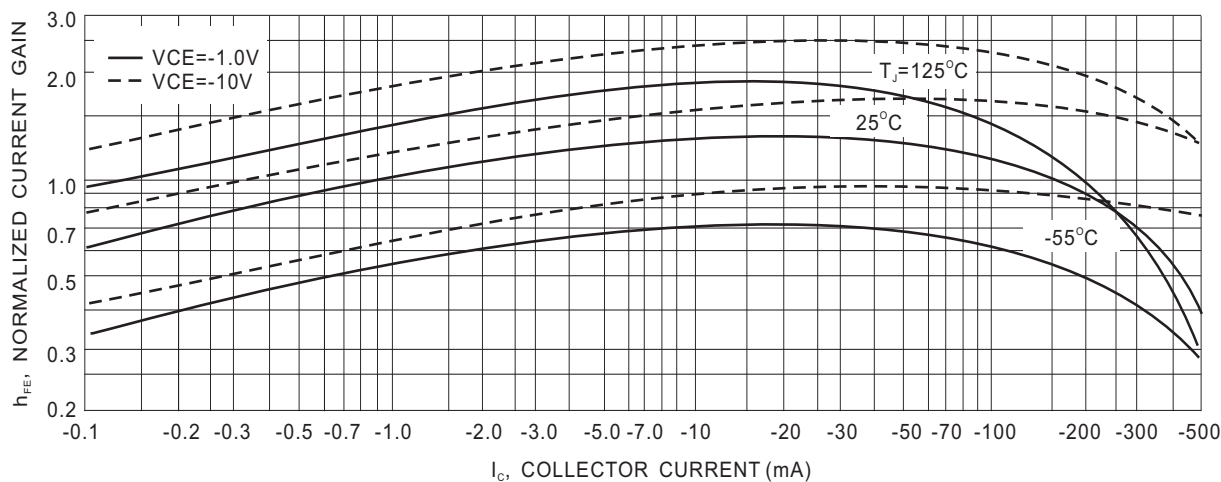
Note 1 : Transistor mouted on FR-5 board 1.0 x 0.75 x 0.062 in.

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ELECTRICAL CHARACTERISTICS (T_J=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Units
Collector-Emitter Breakdown Voltage	V _(BR) CEO	I _C =-10mA, I _B =0	-60	-	-	V
Collector-Base Breakdown Voltage	V _(BR) CBO	I _C =-10μA, I _E =0	-60	-	-	V
Emitter-Base Breakdown Voltage	V _(BR) EBO	I _E =-10μA, I _C =0	-5.0	-	-	V
Base Cutoff Current	I _{BL}	V _{CE} =-30V, V _{EB} =-0.5V	-	-	-50	nA
Collector Cutoff Current	I _{CEX}	V _{CE} =-30V, V _{EB} =-0.5V	-	-	-50	nA
	I _{CBO}	V _{CE} =-50V, I _E =0	-	-	-10	nA
		V _{CE} =-50V, I _E =0 T _J =125°C	-	-	-10	μA
DC Current Gain	h _{FE}	I _C =-0.1mA, V _{CE} =-10V I _C =-1.0mA, V _{CE} =-10V I _C =-10mA, V _{CE} =-10V I _C =-150mA, V _{CE} =-10V I _C =-500mA, V _{CE} =-10V	75 100 100 100 50	- - - - -	- - - 300 -	-
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C =-150mA, I _B =-15mA I _C =-500mA, I _B =-50mA	- -	- -	-0.4 -1.6	V
Base-Emitter Saturation Voltage	V _{BE(SAT)}	I _C =-150mA, I _B =-15mA I _C =-500mA, I _B =-50mA	- -	- -	-1.3 -2.6	V
Collector-Base Capacitance	C _{CBO}	V _{CB} =-10V, I _E =0, f=1MHz	-	-	8.0	pF
Emitter-Base Capacitance	C _{EBO}	V _{CB} =-2V, I _C =0, f=1MHz	-	-	30	pF
Current Gain-Bandwidth Product	F _T	I _C =-50mA, V _{CE} =-20V, f=100MHz	200	-	-	MHz
Turn-On Time	t _{on}	V _{CC} =-30V, V _{BE} =-0.5V, I _C =-150mA, I _B =-15mA	-	-	45	ns
Delay Time	t _d	V _{CC} =-30V, V _{BE} =-0.5V, I _C =-150mA, I _B =-15mA	-	-	10	ns
Rise Time	t _r	V _{CC} =-30V, V _{BE} =-0.5V, I _C =-150mA, I _{B1} =-15mA	-	-	40	ns
Turn-Off Time	t _{off}	V _{CC} =-6V, I _C =-150mA, I _{B1} =I _{B2} =-15mA	-	-	100	ns
Storage Time	t _s	V _{CC} =-6V, I _C =-150mA, I _{B1} =I _{B2} =-15mA	-	-	80	ns
Fall Time	t _f	V _{CC} =-6V, I _C =-150mA, I _{B1} =I _{B2} =-15mA	-	-	30	ns

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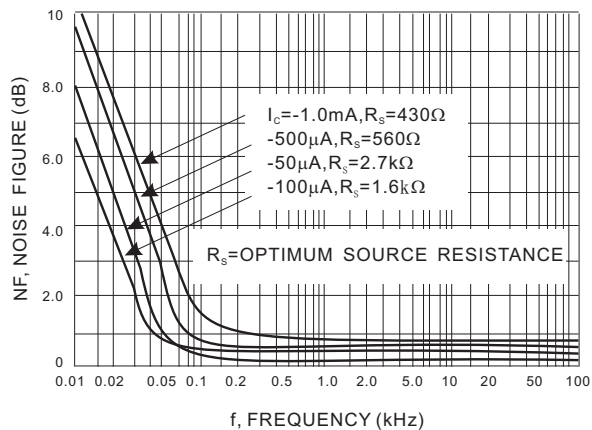


Fig.5-Frequency Effects

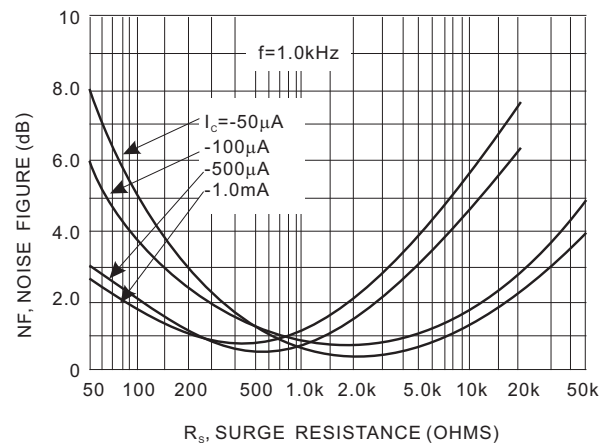


Fig.6-Source Resistance Effects

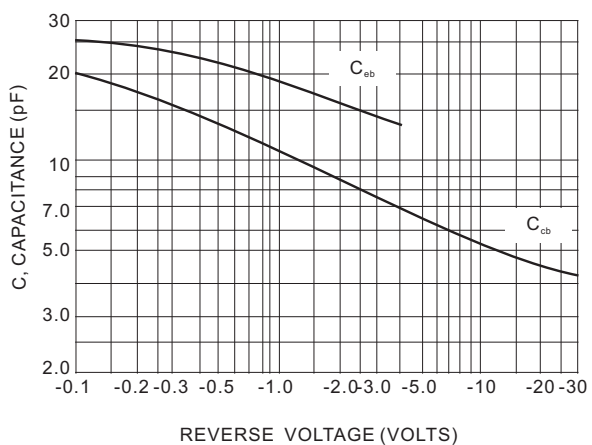


Fig.7-Capacitances

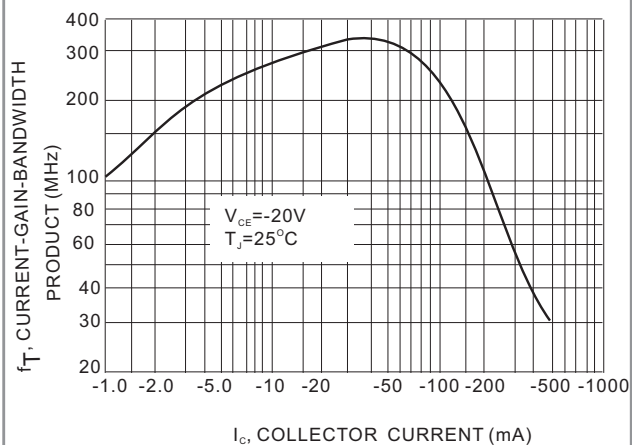


Fig.8-Current-Gain-Bandwidth Product

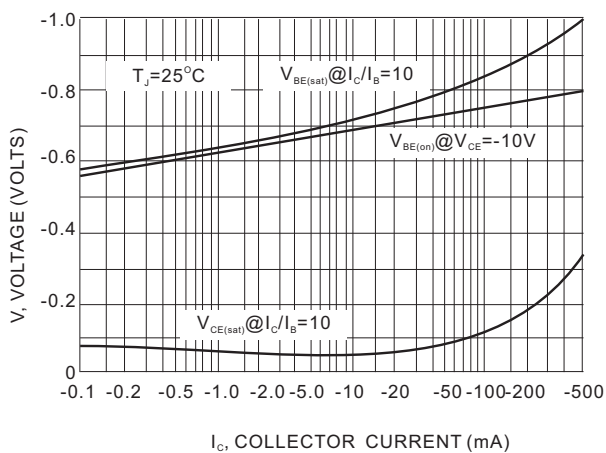


Fig.9-On Voltage

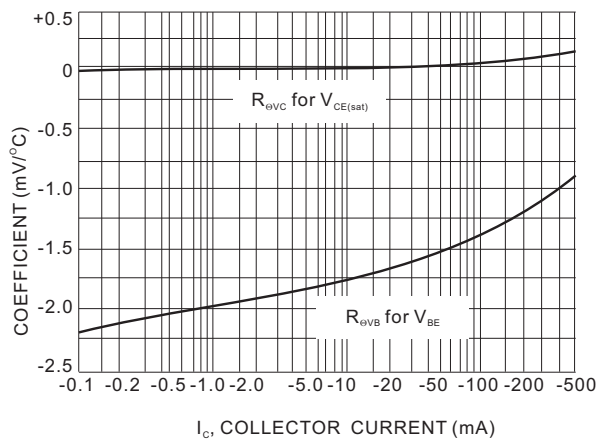


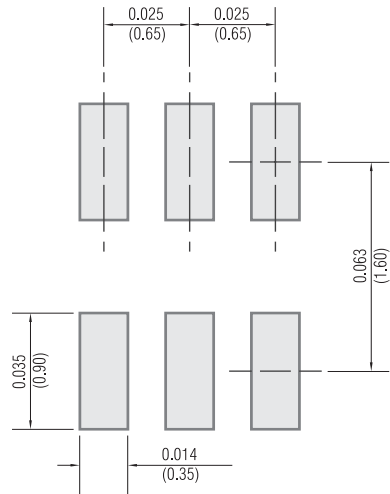
Fig.10-Temperature Coefficients

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MOUNTING PAD LAYOUT

SOT-363

Unit: inch (mm)



ORDER INFORMATION

- Packing information

T/R - 10K per 13" plastic Reel

T/R - 3K per 7" plastic Reel