



# IMZ2A

## COMPLEMENTARY DUAL GENERAL PURPOSE AMPLIFIER TRANSIS

**VOLTAGE** 50 Volt **POWER** 300mW

**SOT-23 6L** Unit : inch(mm)

### FEATURES

- PNP/NPN epitaxial silicon, planar design
- Collector-emitter voltage  $V_{CE}=50V$
- Collector current  $I_C=150mA$
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

- Case : SOT-23 6L plastic
- Terminals : Solderable per MIL-STD-750,Method 2026
- Approx. Weight : 0.0005 ounces, 0.014 grams
- Marking : Z2A

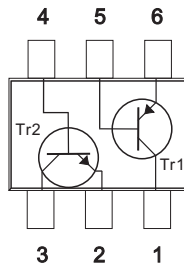
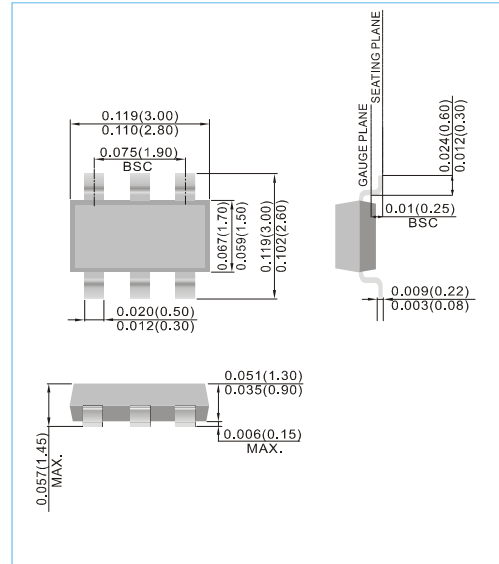


Fig.137



### ABSOLUTE RATINGS ( $T_A=25^{\circ}C$ )

PARAMETER	SYMBOL	Tr1	Tr2	UNITS
Collector-Emitter Voltage	$V_{CEO}$	-50	50	V
Collector-Base Voltage	$V_{CBO}$	-60	60	V
Emitter-Base Voltage	$V_{EBO}$	-6	7	V
Collector Current Continuous	$I_C$	-150	150	mA

### THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	VALUE	UNITS
Max. Power Dissipation (Note1)	$P_{TOT}$	300	mW
Thermal Resistance, Junction to Ambient (Note1)	$R_{\theta JA}$	106	$^{\circ}C/W$
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^{\circ}C$

NOTE :

1. Transistor mounted on FR-4 board 70 x 60 x 1 mm.



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### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

Tr1 (PNP)

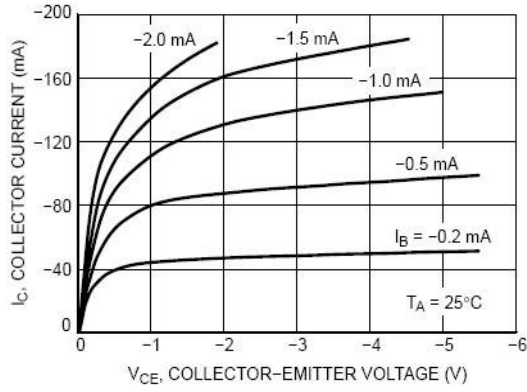
PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =-1mA	-50	-	-	V
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-50μA	-60	-	-	V
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =-50μA	-6	-	-	V
Collector-Base Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> =-60V	-	-	-0.1	μA
Collector-Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =-6V	-	-	-0.1	μA
DC Current Gain (Note1)	h <sub>FE</sub>	V <sub>CE</sub> =-6V, I <sub>C</sub> =-1mA	120	-	560	-
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> /I <sub>B</sub> =-50mA/-5mA	-	-	-0.5	V
Cutoff Frequency	f <sub>r</sub>	I <sub>E</sub> =2mA, V <sub>CE</sub> =-12V, f=100MHz	-	140	-	MHz
Output Capacitance	C <sub>ob</sub>	I <sub>E</sub> =0mA, V <sub>CE</sub> =-12V, f=100MHz	-	4	5	pF

Tr2 (NPN)

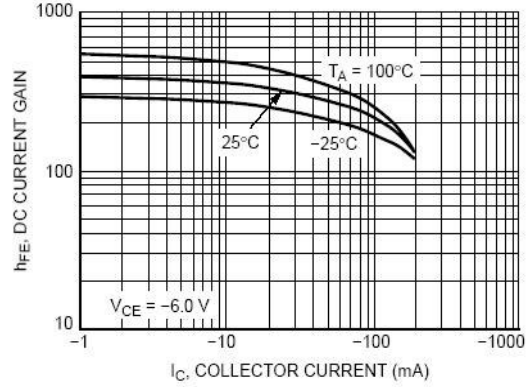
PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA	50	-	-	V
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =50μA	60	-	-	V
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =50μA	7	-	-	V
Collector-Base Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> =60V	-	-	0.1	μA
Collector-Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =7V	-	-	0.1	μA
DC Current Gain (Note1)	h <sub>FE</sub>	V <sub>CE</sub> =6V, I <sub>C</sub> =1mA	120	-	560	-
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> /I <sub>B</sub> =50mA/5mA	-	-	0.4	V
Cutoff Frequency	f <sub>r</sub>	I <sub>E</sub> =2mA, V <sub>CE</sub> =12V, f=100MHz	-	180	-	MHz
Output Capacitance	C <sub>ob</sub>	I <sub>E</sub> =0mA, V <sub>CE</sub> =12V, f=100MHz	-	2	3.5	pF



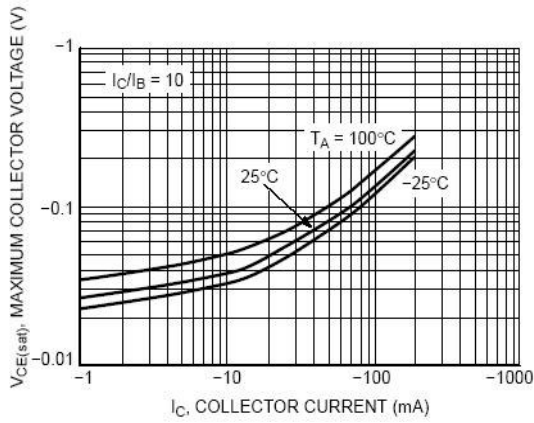
# IMZ2A



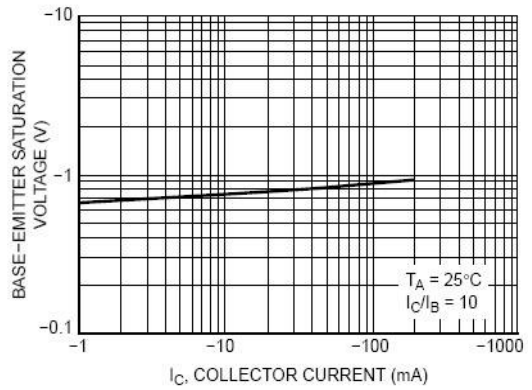
**Fig. 1. Collector Saturation Region**



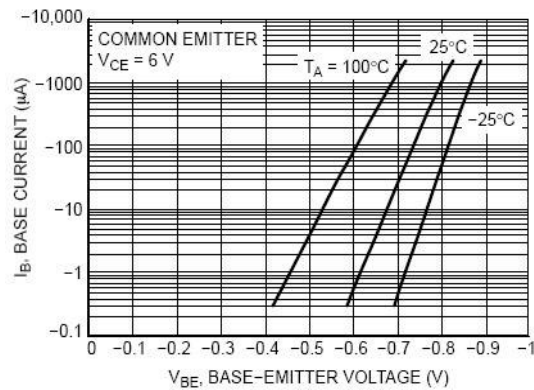
**Fig. 2. DC Current Gain**



**Fig. 3.  $V_{CE(sat)}$  versus  $I_C$**



**Fig. 4.  $V_{BE(sat)}$  versus  $I_C$**



**Fig. 5. Base-Emitter Voltage**



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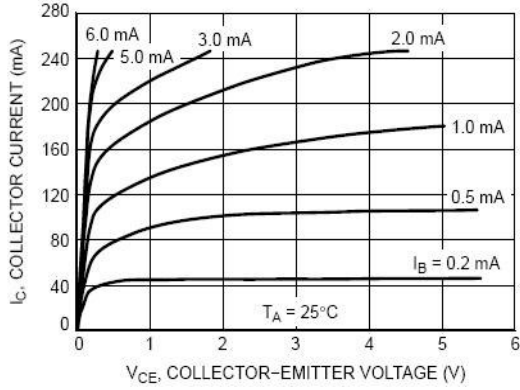


Fig. 1. Collector Saturation Region

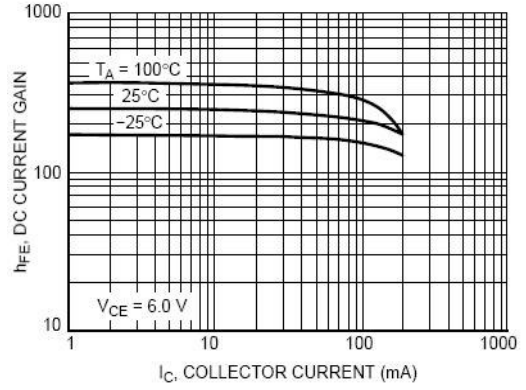


Fig. 2. DC Current Gain

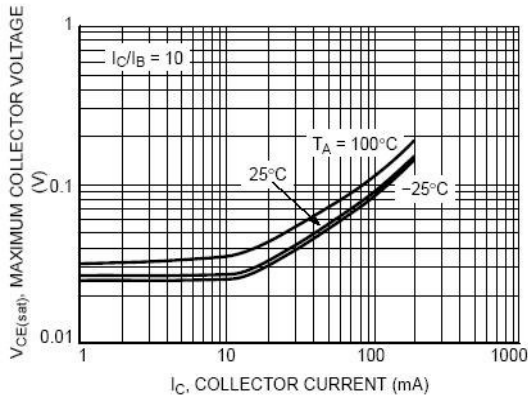


Fig. 3.  $V_{CE(sat)}$  versus  $I_C$

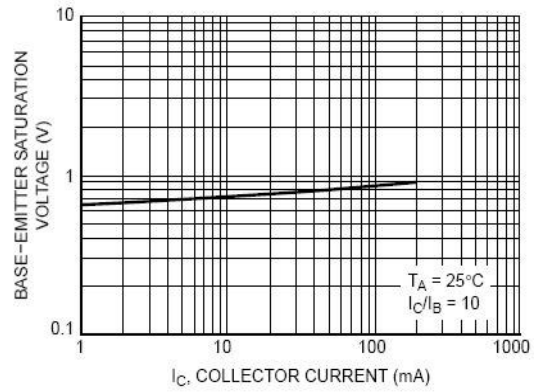


Fig. 4.  $V_{BE(sat)}$  versus  $I_C$

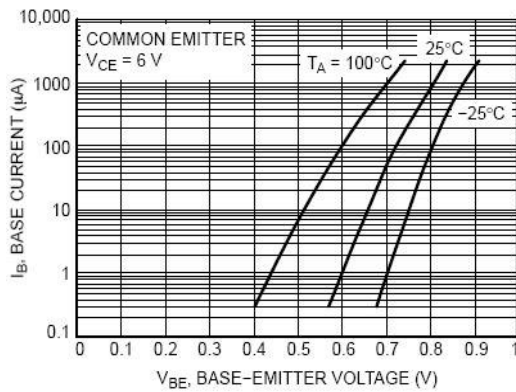
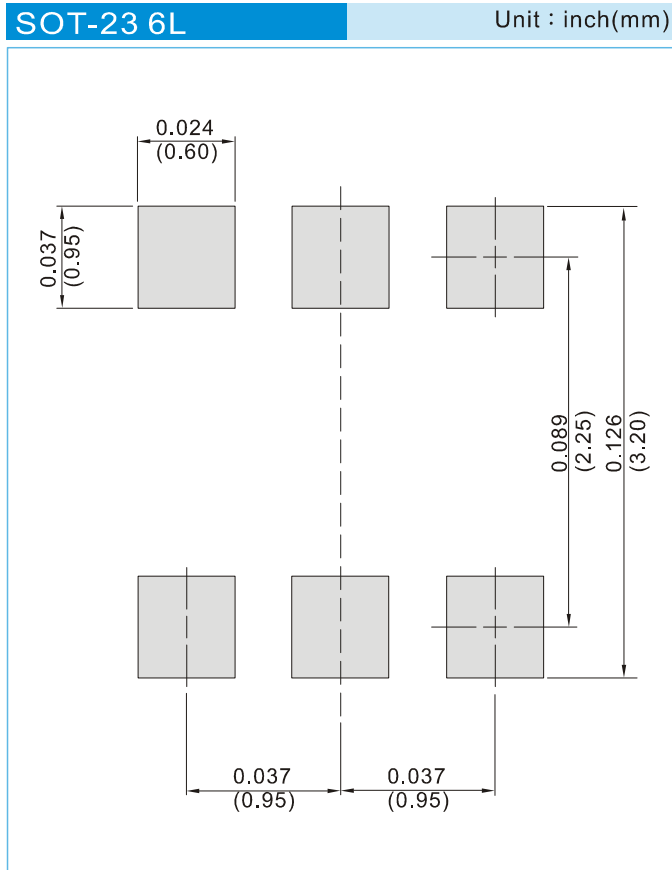


Fig. 5. Base-Emitter Voltage



## IMZ2A

### MOUNTING PAD LAYOUT



### ORDER INFORMATION

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



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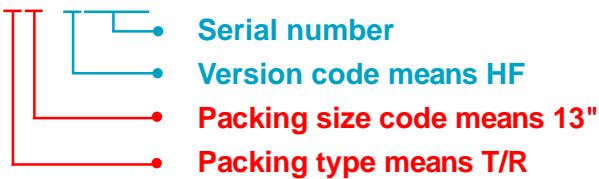
### Part No\_packing code\_Version

IMZ2A\_R1\_00001  
IMZ2A\_R2\_00001  
IMZ2A\_S1\_00001  
IMZ2A\_S2\_00001

For example :

**RB500V-40\_R2\_00001**

Part No.



Packing Code XX				Version Code XXXXX		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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