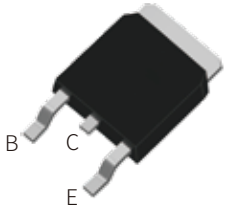
FEATURES

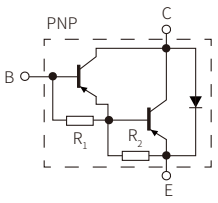
- High DC Current Gain
- Electrically Similar to Popular TIP127
- Built-in a Damper Diode at E-C



TO-252

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003



R_1 typ. =5KΩ ,R_2 typ. =210Ω

Schematic Symbol

MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-100	V
Collector-Emitter Voltage	V_{CEO}	-100	
Emitter-Base Voltage	V_{EBO}	-5	
Collector Current -Continuous	I_C	-8	A
Collector Power Dissipation	P_C	1.5	W
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	83.3	°C/W
Storage Operation Junction and Storage Temperature Range	T_J,T_{STG}	-55~+150	°C

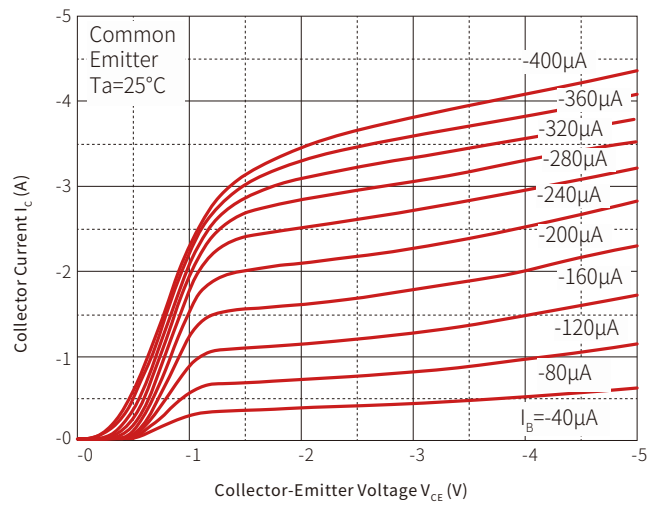
ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-1mA,I_E=0	-100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-30mA,I_B=0	-100			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-10mA,I_C=0	-5			
Collector cut-off current	I_{CEO}	V_{CE}=-50V, I_B=0			-10	μA
Collector cut-off current	I_{CBO}	V_{CB}=-100V, I_E=0			-10	
Emitter cut-off current	I_{EBO}	V_{EB}=-5V, I_C=0			-2	mA
DC current gain	$h_{FE(1)}$	V_{CE}=-4V, I_C=-4A	1000		12000	
	$h_{FE(1)}$	V_{CE}=-4V, I_C=-8A	100			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-4A, I_B=-16mA			-2	V
	$V_{CE(sat)}$	I_C=-8A, I_B=-80mA			-4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=-8A, I_B=-80mA			-4.5	V
Base-emitter voltage*	V_{BE}	V_{CE}=-4V, I_C=-4A			-2.8	V
Collector output capacitance	C_{ob}	V_{CB}=-10V, I_E=0 ,f=0.1MHz			300	pF

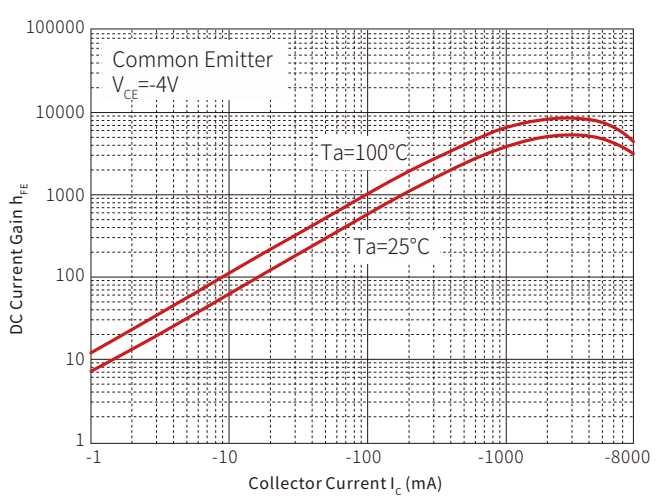
*Pulse Test: Pulse Width≤380μs, Duty Cycle≤2%

TYPICAL CHARACTERISTICS

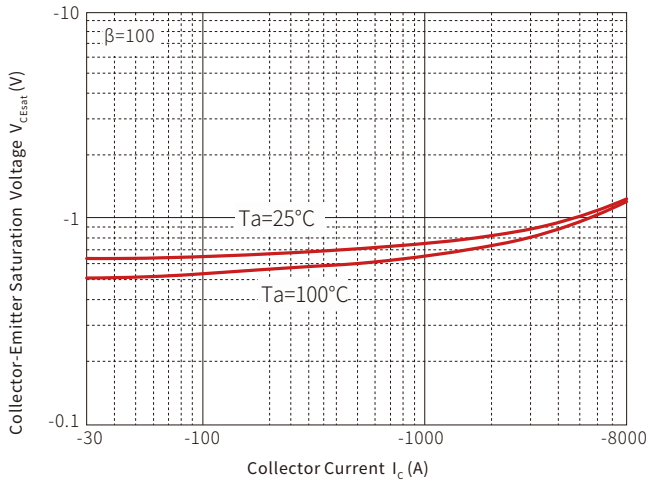
Static Characteristic



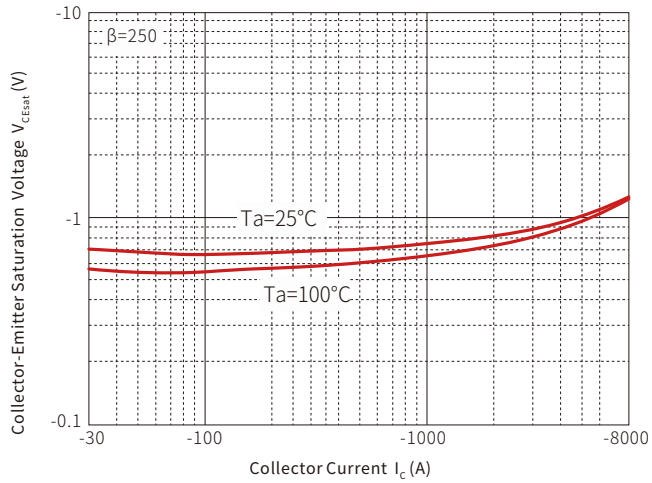
h_{FE} ——— I_C



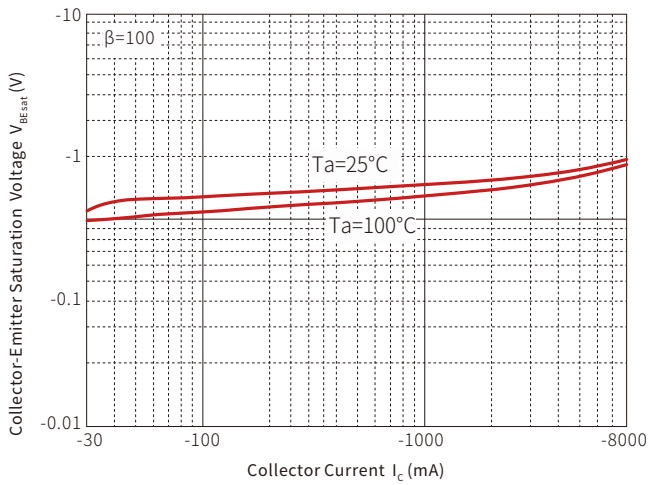
$V_{CE\,sat}$ —— I_C



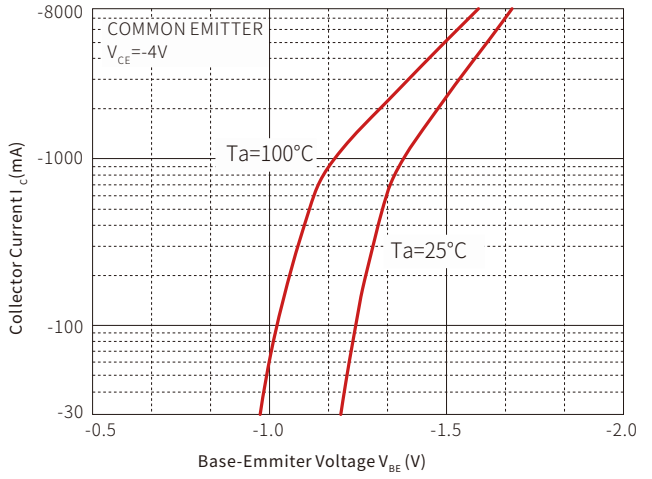
$V_{CE\,sat}$ —— I_C



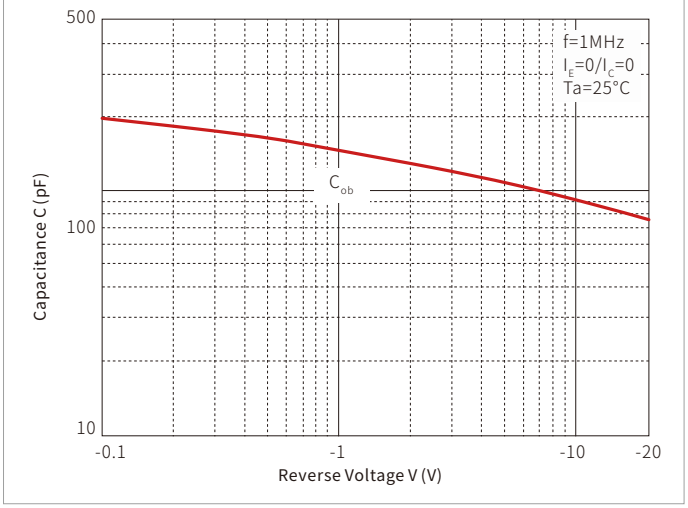
$V_{BE\,sat}$ —— I_C



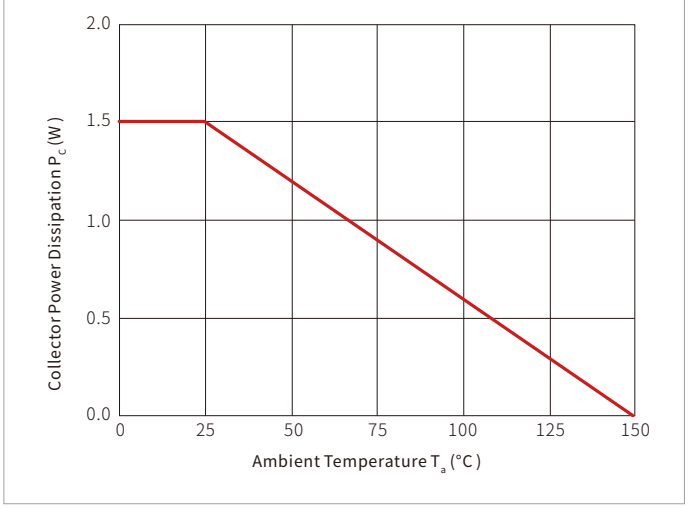
I_C —— V_{BE}



C_{ob} ——— V_{CB}

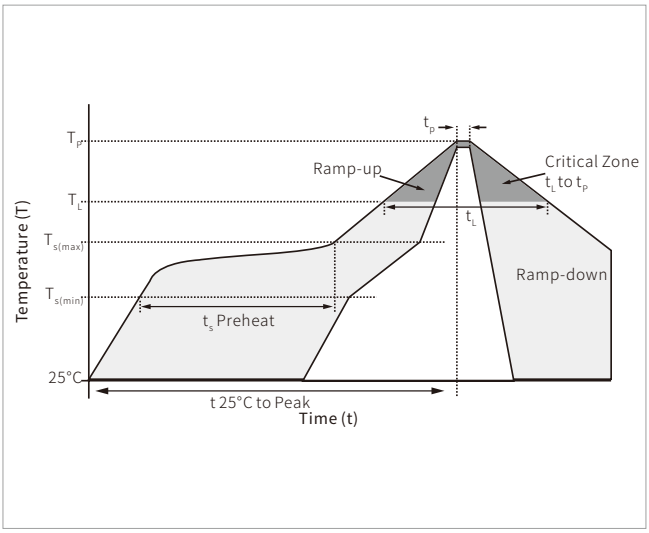


P_C ——— T_a

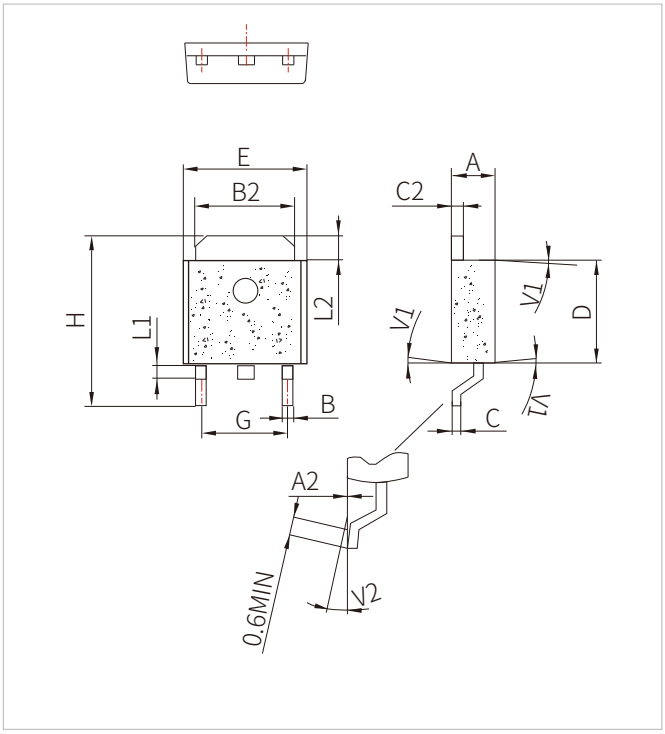


SOLDERING PARAMETERS

Reflow Condition		Lead–free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
	$T_{S(max)}$ to T_L - Ramp-up Rate	3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes max.
Do not exceed		260°C



TO-252 PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.80	0.252		0.268
G	4.40		4.70	0.173	0.1	0.185
H	9.35		10.7	0.368		0.421
L1	1.30		1.70	0.051	0.143	0.067
L2	1.37		1.50	0.054		0.059
V1		4°			0.130	
V2	0°		8°	0°		8°

ORDERING INFORMATION

Part Number	Component Package	Marking	QTY/Reel	Reel Size
MJD127	TO-252	MJD127 XXXX	2500PCS	13”

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