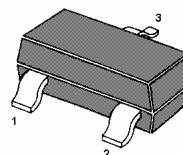


MMBT A13

NPN Silicon Epitaxial Planar Darlington Transistor

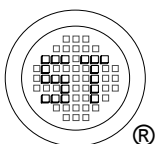


1. Base 2. Emitter 3. Collector

SOT-23 Plastic Package

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

	Symbol	Value	Unit
Collector Emitter Voltage	V_{CES}	30	V
Collector Base Voltage	V_{CBO}	30	V
Emitter Base Voltage	V_{EBO}	10	V
Collector Current	I_C	500	mA
Total Device Dissipation Derate above 25°C	P_{tot}	200 2.8	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_s	-55 to +150	$^\circ\text{C}$



SEMTECH ELECTRONICS LTD.

(Subsidiary of Sino-Tech International Holdings Limited, a company
listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002
Certificate No. 05103



ISO 14001:2004
Certificate No. 7116



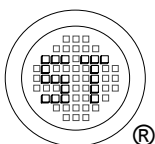
ISO 9001:2000
Certificate No. 0506098

Dated : 20/10/2005

MMBT A13

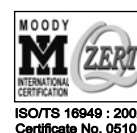
Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

	Symbol	Min.	Max.	Unit
DC Current Gain				
at $I_C=10\text{mA}$, $V_{CE}=5\text{V}$	h_{FE}	5000	-	-
at $I_C=100\text{mA}$, $V_{CE}=5\text{V}$	h_{FE}	10,000	-	-
Collector Cutoff Current				
at $V_{CB}=30\text{V}$	I_{CBO}	-	0.1	μA
Emitter Cutoff Current				
at $V_{EB}=10\text{V}$	I_{EBO}	-	0.1	μA
Collector Emitter Breakdown Voltage				
at $I_C=100\mu\text{A}$	$V_{(BR)CES}$	30	-	V
Collector Saturation Voltage				
at $I_C=100\text{mA}$, $I_B=0.1\text{mA}$	$V_{CE(sat)}$	-	1.5	V
Base On Voltage				
at $I_C=100\text{mA}$, $V_{CE}=5\text{V}$	$V_{BE(on)}$	-	2	V
Current Gain – Bandwidth Product				
at $I_C=10\text{mA}$, $V_{CE}=10\text{V}$, $f=100\text{MHz}$	f_T	125	-	MHz



SEMTECH ELECTRONICS LTD.

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



Dated : 20/10/2005