Technical Data
Data Sheet N0039, Rev. A

Green Products

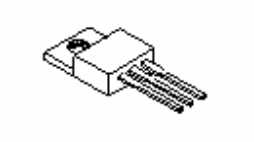
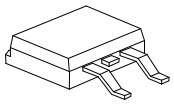
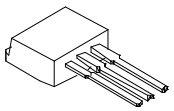
MBR30100CT /MBRB30100CT /MBR30100CT-1
SCHOTTKY RECTIFIER

Applications:

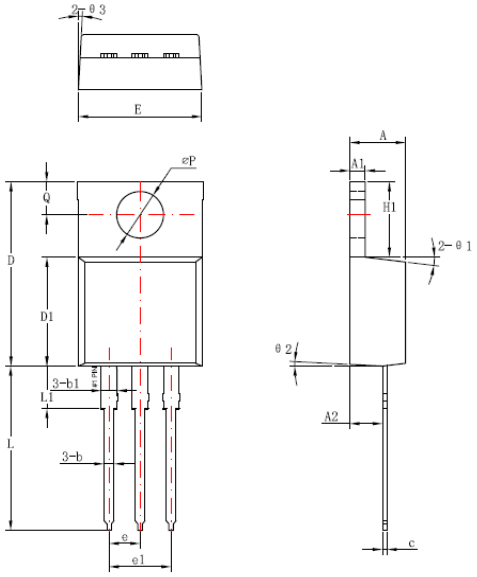
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Features:

- 150 °C T_J operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Case styles		
MBR30100CT	**MBRB30100CT**	**MBR30100CT-1**
		
TO-220AB	**D^2PAK**	**TO-262**

Mechanical Dimensions: In Inches / mm



Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	4.42	4.57	4.72
A1	1.17	1.27	1.37
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
D	14.94	15.24	15.54
D1	8.85	9.00	9.15
E	10.01	10.16	10.31
e		2.54	
e1		5.06	
H1	6.04	6.24	6.44
L	12.7	13.56	13.78
L1		3.5	
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
Θ1		7°	
Θ2		3°	
Θ3		4°	

TO-220AB

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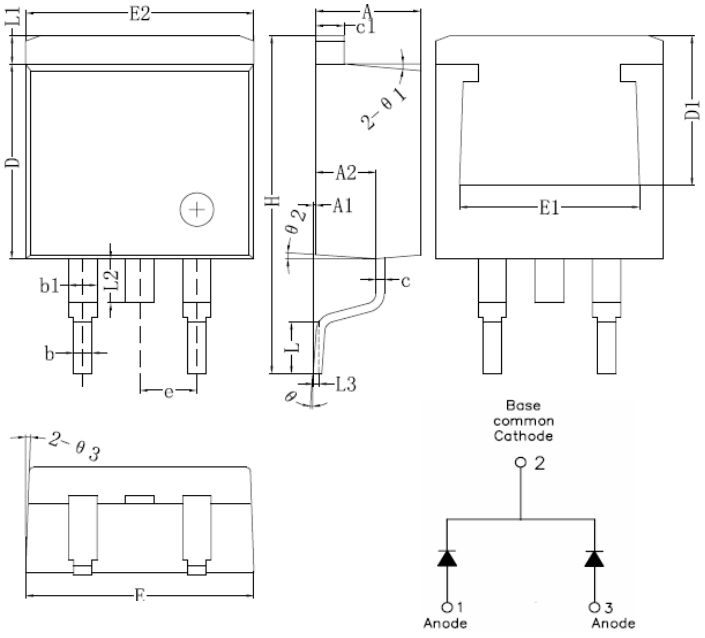
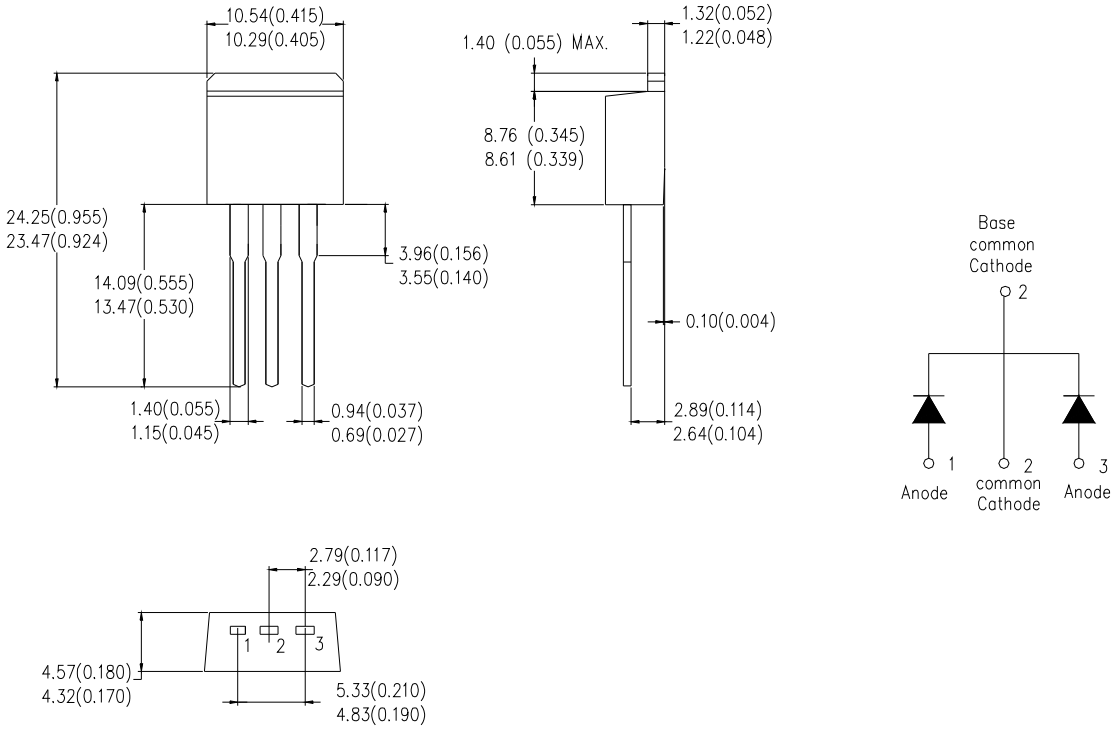


Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
c1	1.17	1.27	1.37
D	8.55	8.70	8.85
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.18
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.70
L1	1.17	1.27	1.40
L2			2.20
L3		0.25BSC	
e	0	-	8°
e1		5°	
e2		4°	
e3		4°	

D^2PAK



TO-262

SANGDEST MICROELECTRONICS

MBR30100CT
MBRB30100CT
MBR30100CT-1

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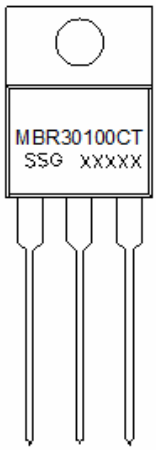
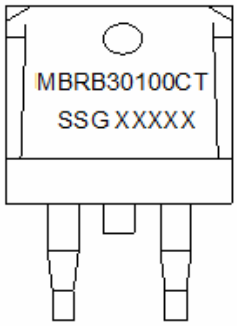
Marking Diagram:





MBR30100CT MBRB30100CT

Where XXXXX is YYWWL

MBR	= Device Type
B	= Package type
30	= Forward Current (30A)
100	= Reverse Voltage (100V)
CT/CT-1	= Configuration
SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Ordering Information:

Device	Package	Shipping
MBR30100CT	TO-220AB (Pb-Free)	50pcs / tube
MBRB30100CT	D^2 PAK (Pb-Free)	800pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	100	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle @T_C = 133℃, rectangular wave form	30	A
Peak Repetitive Forward Current(per leg)	I_{FRM}	Rated V_R square wave, 20KHz T_C = 133℃	20	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	Surge applied at rated load conditions halfwave, single phase,60Hz	200	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop (per leg) *	V_{F1}	@ 15 A, Pulse, T_J = 25 °C @ 30 A, Pulse, T_J = 25 °C	0.85 1.05	V
	V_{F2}	@ 15 A, Pulse, T_J = 125 °C @ 30 A, Pulse, T_J = 125 °C	0.70 0.85	V
Reverse Current (per leg) *	I_{R1}	@V_R = rated V_R T_J = 25 °C	1.00	mA
	I_{R2}	@V_R = rated V_R T_J = 125 °C	6.0	mA
Junction Capacitance (per leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	400	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	8.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/µs

* Pulse Width < 300µs, Duty Cycle <2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	°C
Storage Temperature	T_{stg}	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	2.0	°C/W
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta JA}$	DC operation	50	°C/W
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	0.50	°C/W
Approximate Weight	wt	-	2/1.85	g
Case Style	TO-220AB /D^2PAK /TO-262			

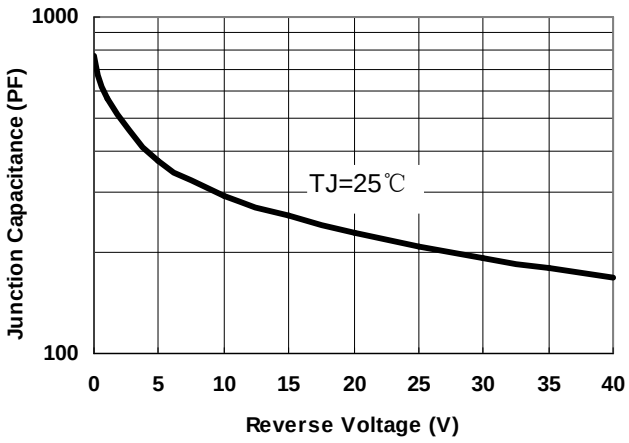


Fig.1-Typical Junction Capacitance

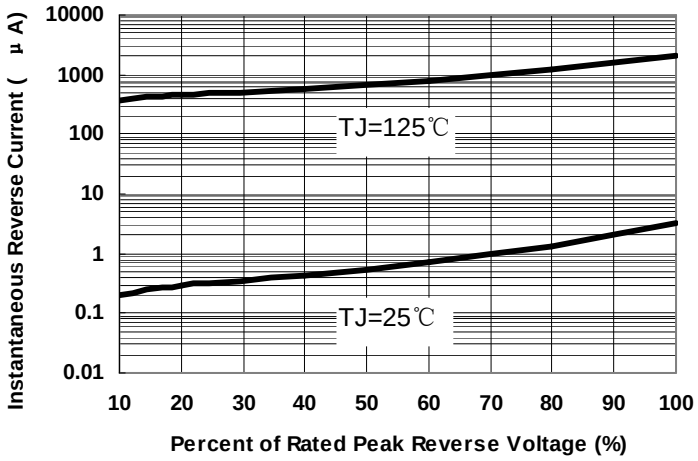


Fig.2-Typical Reverse Characteristics

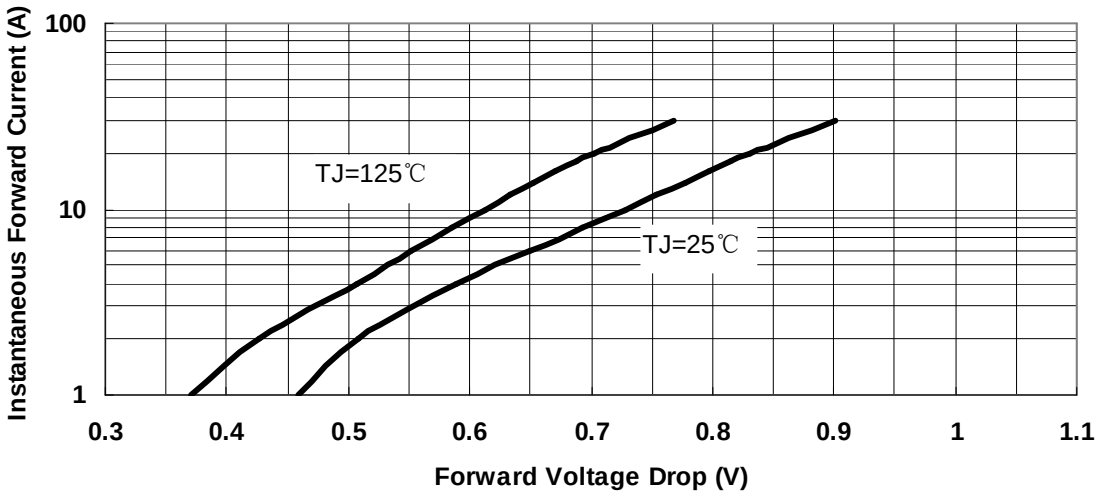


Fig.3-Typical Instantaneous Forward Voltage Characteristics

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