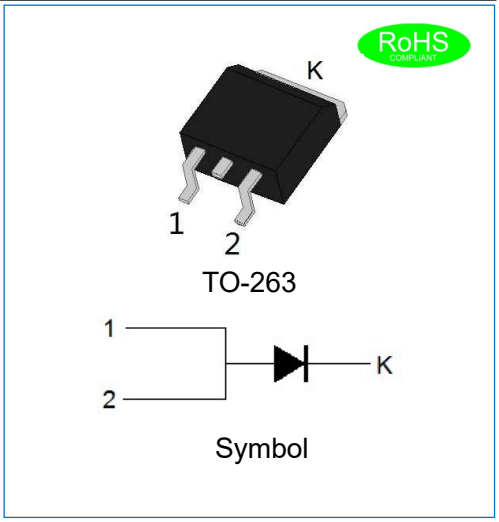
JSTE30P45A

30A Schottky Barrier Rectifier

Rev.1.1

DESCRIPTION

- ✧ Trench MOS barrier schottky technology
- ✧ Low stored charge majority carrier conduction
- ✧ Ultra low forward voltage drop
- ✧ Low leakage current
- ✧ Low power loss and high efficiency
- ✧ High forward surge capacity



MECHANICAL DATA

- ✧ Case: TO-263 molded plastic
- ✧ Terminals: Solder plated, solderable per J-STD-002

ABSOLUTE MAXIMUM RATING (Rating at 25℃ ambient temperature unless otherwise specified.)

Parameter	Symbol	JSTE30P45A	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	45	V
Maximum RMS voltage	V_{RMS}	31.5	V
Maximum DC blocking voltage	V_{DC}	45	V
Average forward current	$I_{F(AV)}$	30	A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	290	A
Operating junction temperature range	T_j	-55 to +150	℃
Storage temperature range	T_{stg}	-55 to +150	

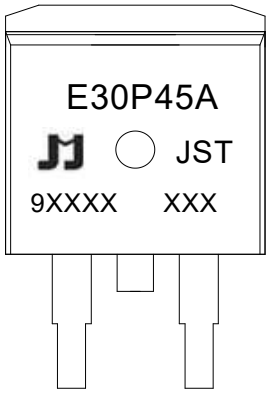
ELECTRICAL CHARACTERISTICS(Rating at 25℃ ambient temperature unless otherwise specified.)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage	I_F=0.5A, T_A=25℃	V_F	-	0.32	-	V
	I_F=15A, T_A=25℃		-	0.45	-	
	I_F=20A, T_A=25℃		-	0.47	-	
	I_F=30A, T_A=25℃		-	0.49	0.56	
Reverse current	V_R=45V, T_A=25℃	I_R	-	-	100	μA
	V_R=45V, T_A=125℃		-	-	50	mA
Reverse recovery time	I_F=3A, dI/dt=100A/μs	t_{rr}	-	-	30	ns
Junction capacitance	V_R=5V_{DC}, f=1MHz	C_J	-	750	-	pF

THERMAL RESISTANCES

Symbol	Parameter	JSTE30P45A	Unit
$R_{th(j-c)}$	Thermal resistances from junction to case	2.1	℃/W

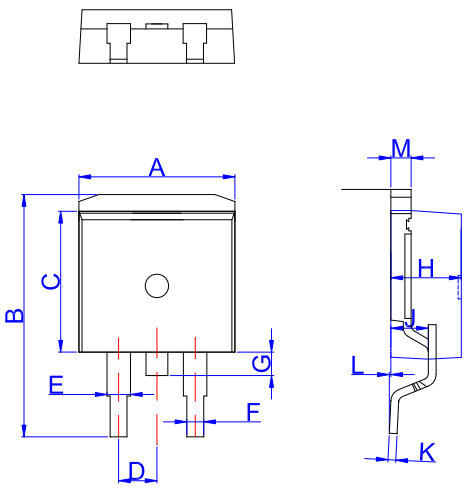
MARKING



JS	Schottky Barrier Rectifier
T	Trench technology
E	Package: TO-263
30	$I_{F(AV)}$=30A
P	Photovoltaic
45	V_{RRM}:45V
A	Version

9	Year code(8:2018,9:2019,……)
XX	Week code
XX	Chip code
XXX	Package lot number

PACKAGE MECHANICAL DATA



TO-263

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.90		10.20	0.390		0.402
B	14.70		15.80	0.579		0.622
C	9.4		9.6	0.37		0.378
D		2.54			0.100	
E	1.20		1.40	0.047		0.055
F	0.75		0.85	0.029		0.033
G			1.75			0.069
H	4.40		4.70	0.173		0.185
J	2.30		2.70	0.091		0.106
K	0.38		0.55	0.015		0.022
L	0	0.10	0.25	0	0.004	0.010
M	1.25		1.35	0.049		0.053

PACKAGE INFORMATION-TO-263

OUTLINE	UNIT WEIGHT (g/PCS) TYP	TUBE (PCS)	PER CARTON (PCS)
TUBE	1.514	50	5,000

CHARACTERITICS CURVE

FIG.1: Typical forward characteristics(25℃)

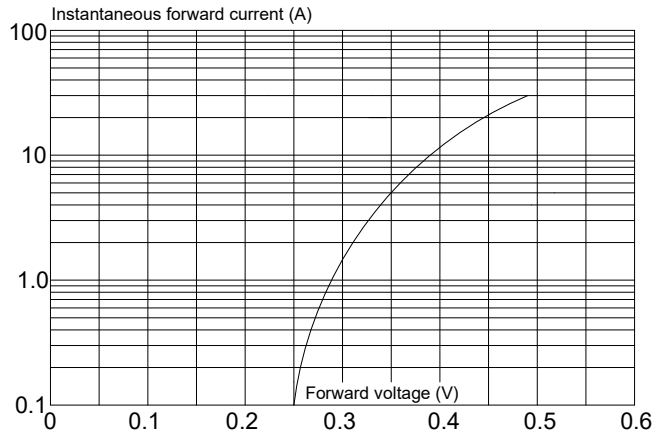


FIG.2: Typical reverse characteristics(25℃)

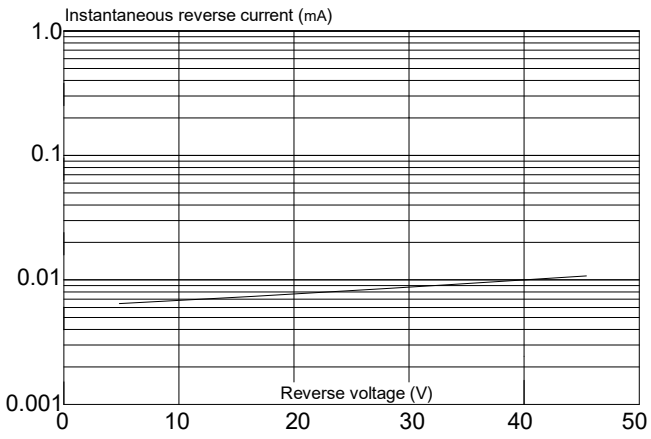


FIG.3: Maximum non-repetitive peak forward surge current

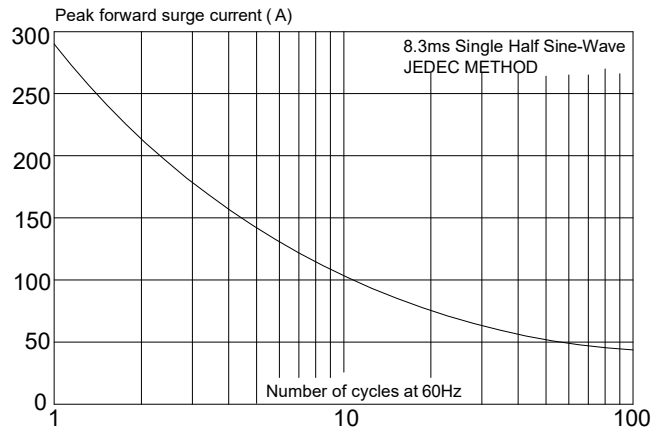


FIG.4: Forward current derating curve

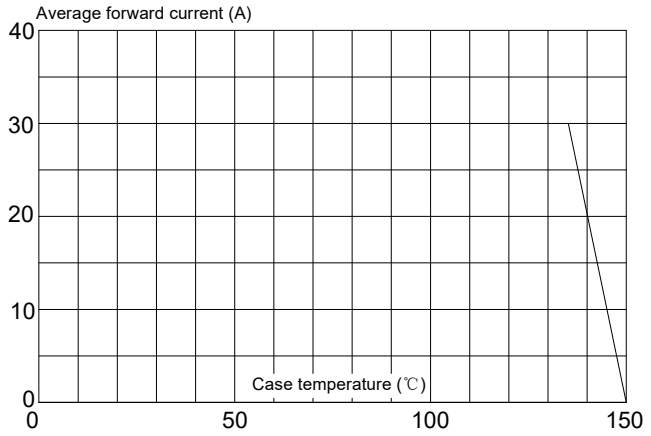


FIG.5: Typical transient thermal impedance

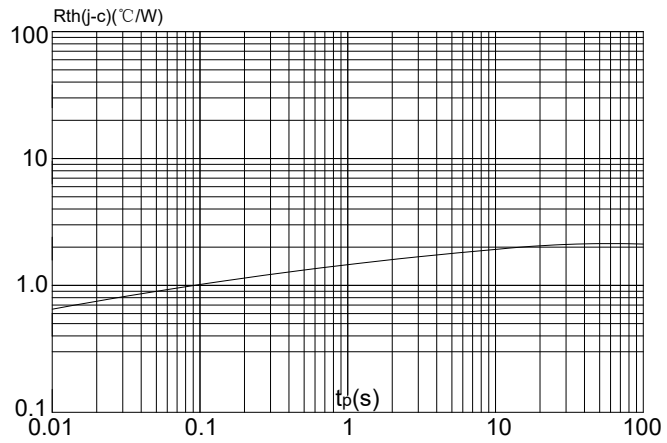
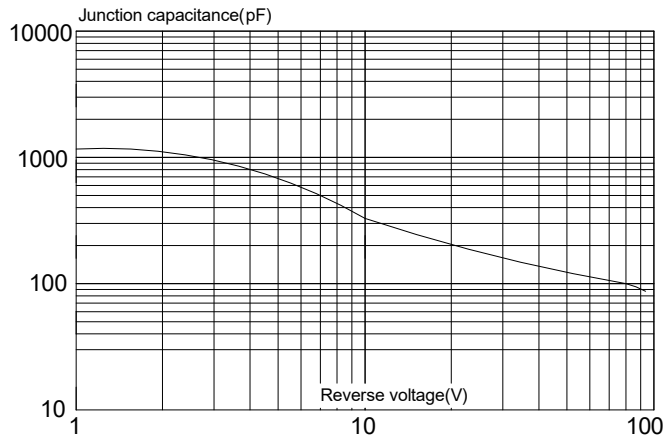


FIG.6: Typical junction capacitance



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