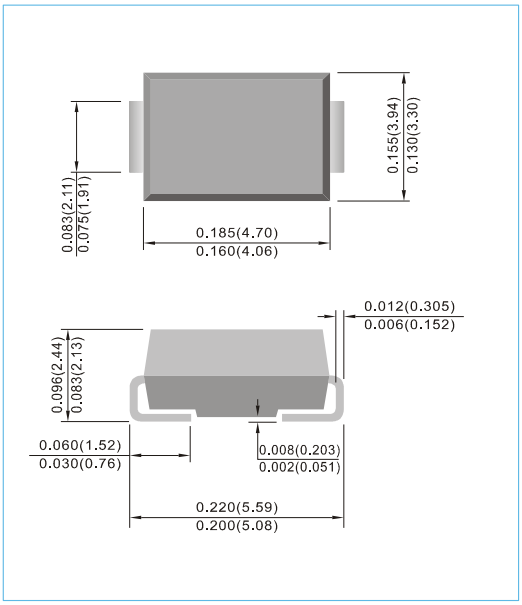
P6SMBJ-AU SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR POWER 600 Watt

STAND-OFF VOLTAGE | **5 to 220 Volt**

SMB / DO-214AA Unit : inch(mm)



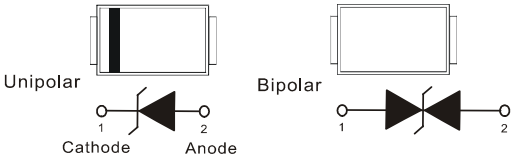
Recongnized File # E210467

FEATURES

- For surface mounted applications in order to optimize board space.
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- High temperature soldering : 260°C /10 seconds at terminals
- Acqire quality system certificate : TS16949
- AEC-Q101 qualified
- ESD IEC-61000-4-2 Air ± 30kV, Contact ± 30kV
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

- Case: JEDEC DO-214AA,Molded plastic over passivated junction.
- Terminals: Solder plated,solderable per MIL-STD-750,Method 2026
- Polarity: Color band denotes cathode end
- Standard Packaging: 12mm tape (EIA-481)
- Weight: 0.003 ounce, 0.092 gram



DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types P6SMBJ5.0 thru types P6SMBJ220.
Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°Cambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.
For Capacitive load derate current by 20%.

Rating	Symbol	Value	Units
Peak Pulse Power Dissipation on tp=10/1000μs waveform (Notes 1,2, Fig.1)	P_{PP}	600	Watts
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (Notes 2,3)	I_{FSM}	100	Amps
Peak Pulse Current on tp=10/1000μs waveform (Notes 1) Fig.3	I_{PPM}	see Table 1	Amps
Typical Thermal Resistance Junction to Air (Notes 2)	$R_{\theta JA}$	60	°C / W
ESD IEC-61000-4-2 (Air) ESD IEC-61000-4-2 (Contact)	V_{ESD}	±30 ±30	kV
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 to +150	°C

NOTES :

1. Non-repetitive current pulse, per Fig.3 and derated above T_A = 25°C per Fig. 2.
2. Mounted on 5mm² (0.13mm thick) land areas.
3. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
4. A transient suppressor is selected according to the working peak reverse voltage (V_{RWM}), which should be equal to or greater than the DC or continuous peak operating voltage level.

P6SMBJ-AU SERIES

Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000µs	Peak Pulse Current 10/1000µs	Marking Code	
		V_{RWM} (Notes 4)	V_{BR} @ I_T		I_T	I_R @ V_{RWM}		V_C @ I_{PP}	I_{PP}		
			Min.	Max.		UNI	BI				
UNI	BI	V	V	V	mA	µA	µA	V	A	UNI	BI
600W Transient Voltage Suppressor											
P6SMBJ5.0-AU	P6SMBJ5.0C-AU	5	6.4	7.55	10	800	1600	9.6	62.5	KD	AD
P6SMBJ5.0A-AU	P6SMBJ5.0CA-AU	5	6.4	7.25	10	800	1600	9.2	65.2	KE	AE
P6SMBJ6.0-AU	P6SMBJ6.0C-AU	6	6.67	8.45	10	800	1600	11.4	52.6	KF	AF
P6SMBJ6.0A-AU	P6SMBJ6.0CA-AU	6	6.67	7.67	10	800	1600	10.3	58.3	KG	AG
P6SMBJ6.5-AU	P6SMBJ6.5C-AU	6.5	7.22	9.14	10	500	1000	12.3	48.7	KH	AH
P6SMBJ6.5A-AU	P6SMBJ6.5CA-AU	6.5	7.22	8.30	10	500	1000	11.2	53.6	KK	AK
P6SMBJ7.0-AU	P6SMBJ7.0C-AU	7	7.78	9.86	10	200	400	13.3	45.1	KL	AL
P6SMBJ7.0A-AU	P6SMBJ7.0CA-AU	7	7.78	8.95	10	200	400	12.0	50	KM	AM
P6SMBJ7.5-AU	P6SMBJ7.5C-AU	7.5	8.33	10.67	1	100	200	14.3	42	KN	AN
P6SMBJ7.5A-AU	P6SMBJ7.5CA-AU	7.5	8.33	9.58	1	100	200	12.9	46.5	KP	AP
P6SMBJ8.0-AU	P6SMBJ8.0C-AU	8	8.89	11.3	1	50	100	15.0	40	KQ	AQ
P6SMBJ8.0A-AU	P6SMBJ8.0CA-AU	8	8.89	10.23	1	50	100	13.6	44.1	KR	AR
P6SMBJ8.5-AU	P6SMBJ8.5C-AU	8.5	9.44	11.92	1	10	20	15.9	37.7	KS	AS
P6SMBJ8.5A-AU	P6SMBJ8.5CA-AU	8.5	9.44	10.82	1	10	20	14.4	41.7	KT	AT
P6SMBJ9.0-AU	P6SMBJ9.0C-AU	9	10	12.6	1	5	5	16.9	35.5	KU	AU
P6SMBJ9.0A-AU	P6SMBJ9.0CA-AU	9	10	11.5	1	5	5	15.4	39	KV	AV
P6SMBJ10-AU	P6SMBJ10C-AU	10	11.1	14.1	1	5	5	18.8	31.9	KW	AW
P6SMBJ10A-AU	P6SMBJ10CA-AU	10	11.1	12.8	1	5	5	17	35.3	KX	AX
P6SMBJ11-AU	P6SMBJ11C-AU	11	12.2	15.4	1	1	1	20.1	29.9	KY	AY
P6SMBJ11A-AU	P6SMBJ11CA-AU	11	12.2	14	1	1	1	18.2	33	KZ	AZ
P6SMBJ12-AU	P6SMBJ12C-AU	12	13.3	16.9	1	1	1	22	27.3	LD	BD
P6SMBJ12A-AU	P6SMBJ12CA-AU	12	13.3	15.3	1	1	1	19.9	30.2	LE	BE
P6SMBJ13-AU	P6SMBJ13C-AU	13	14.4	18.2	1	1	1	23.8	25.2	LF	BF
P6SMBJ13A-AU	P6SMBJ13CA-AU	13	14.4	16.5	1	1	1	21.5	27.9	LG	BG
P6SMBJ14-AU	P6SMBJ14C-AU	14	15.6	19.8	1	1	1	25.8	23.3	LH	BH
P6SMBJ14A-AU	P6SMBJ14CA-AU	14	15.6	17.9	1	1	1	23.2	25.8	LK	BK
P6SMBJ15-AU	P6SMBJ15C-AU	15	16.7	21.1	1	1	1	26.9	22.3	LL	BL
P6SMBJ15A-AU	P6SMBJ15CA-AU	15	16.7	19.2	1	1	1	24.4	24	LM	BM
P6SMBJ16-AU	P6SMBJ16C-AU	16	17.8	22.6	1	1	1	28.8	20.8	LN	BN
P6SMBJ16A-AU	P6SMBJ16CA-AU	16	17.8	20.5	1	1	1	26	23.1	LP	BP
P6SMBJ17-AU	P6SMBJ17C-AU	17	18.9	23.9	1	1	1	30.5	19.7	LQ	BQ
P6SMBJ17A-AU	P6SMBJ17CA-AU	17	18.9	21.7	1	1	1	27.6	21.7	LR	BR
P6SMBJ18-AU	P6SMBJ18C-AU	18	20	25.3	1	1	1	32.2	18.6	LS	BS
P6SMBJ18A-AU	P6SMBJ18CA-AU	18	20	23.3	1	1	1	29.2	20.5	LT	BT
P6SMBJ20-AU	P6SMBJ20C-AU	20	22.2	28.1	1	1	1	35.8	16.7	LU	BU
P6SMBJ20A-AU	P6SMBJ20CA-AU	20	22.2	25.5	1	1	1	32.4	18.5	LV	BV
P6SMBJ22-AU	P6SMBJ22C-AU	22	24.4	30.9	1	1	1	39.4	15.2	LW	BW
P6SMBJ22A-AU	P6SMBJ22CA-AU	22	24.4	28	1	1	1	35.5	16.9	LX	BX
P6SMBJ24-AU	P6SMBJ24C-AU	24	26.7	33.8	1	1	1	43	14	LY	BY
P6SMBJ24A-AU	P6SMBJ24CA-AU	24	26.7	30.7	1	1	1	38.9	15.4	LZ	BZ
P6SMBJ26-AU	P6SMBJ26C-AU	26	28.9	36.6	1	1	1	46.6	12.4	MD	CD
P6SMBJ26A-AU	P6SMBJ26CA-AU	26	28.9	33.2	1	1	1	42.1	14.2	ME	CE
P6SMBJ28-AU	P6SMBJ28C-AU	28	31.1	39.4	1	1	1	50	12	MF	CF
P6SMBJ28A-AU	P6SMBJ28CA-AU	28	31.1	35.8	1	1	1	45.4	13.2	MG	CG
P6SMBJ30-AU	P6SMBJ30C-AU	30	33.3	42.2	1	1	1	53.5	11.2	MH	CH
P6SMBJ30A-AU	P6SMBJ30CA-AU	30	33.3	38.3	1	1	1	48.4	12.4	MK	CK
P6SMBJ33-AU	P6SMBJ33C-AU	33	36.7	46.5	1	1	1	59	10.2	ML	CL
P6SMBJ33A-AU	P6SMBJ33CA-AU	33	36.7	42.2	1	1	1	53.3	11.3	MM	CM
P6SMBJ36-AU	P6SMBJ36C-AU	36	40	50.7	1	1	1	64.3	9.3	MN	CN
P6SMBJ36A-AU	P6SMBJ36CA-AU	36	40	46	1	1	1	58.1	10.3	MP	CP
P6SMBJ40-AU	P6SMBJ40C-AU	40	44.4	56.3	1	1	1	71.4	8.4	MQ	CQ
P6SMBJ40A-AU	P6SMBJ40CA-AU	40	44.4	51.1	1	1	1	64.5	9.3	MR	CR

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Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000µs	Peak Pulse Current 10/1000µs	Marking Code	
		V_{RWM} (Notes 4)	V_{BR} @ I_T		I_T	I_R @ V_{RWM}		V_C @ I_{PP}	I_{PP}		
			Min.	Max.		UNI	BI				
UNI	BI	V	V	V	mA	µA	µA	V	A	UNI	BI
600W Transient Voltage Suppressor											
P6SMBJ43-AU	P6SMBJ43C-AU	43	47.8	60.5	1	1	1	76.7	7.8	MS	CS
P6SMBJ43A-AU	P6SMBJ43CA-AU	43	47.8	54.9	1	1	1	69.4	8.6	MT	CT
P6SMBJ45-AU	P6SMBJ45C-AU	45	50	63.3	1	1	1	80.3	7.5	MU	CU
P6SMBJ45A-AU	P6SMBJ45CA-AU	45	50	57.5	1	1	1	72.7	8.3	MV	CV
P6SMBJ48-AU	P6SMBJ48C-AU	48	53.3	67.5	1	1	1	85.5	7	MW	CW
P6SMBJ48A-AU	P6SMBJ48CA-AU	48	53.3	61.3	1	1	1	77.4	7.7	MX	CX
P6SMBJ51-AU	P6SMBJ51C-AU	51	56.7	71.8	1	1	1	91.1	6.6	MY	CY
P6SMBJ51A-AU	P6SMBJ51CA-AU	51	56.7	65.2	1	1	1	82.4	7.3	MZ	CZ
P6SMBJ54-AU	P6SMBJ54C-AU	54	60	76	1	1	1	96.3	6.2	ND	DD
P6SMBJ54A-AU	P6SMBJ54CA-AU	54	60	69	1	1	1	87.1	6.9	NE	DE
P6SMBJ58-AU	P6SMBJ58C-AU	58	64.4	81.6	1	1	1	103	5.8	NF	DF
P6SMBJ58A-AU	P6SMBJ58CA-AU	58	64.4	74.1	1	1	1	93.6	6.4	NG	DG
P6SMBJ60-AU	P6SMBJ60C-AU	60	66.7	84.5	1	1	1	107	5.6	NH	DH
P6SMBJ60A-AU	P6SMBJ60CA-AU	60	66.7	76.7	1	1	1	96.8	6.2	NK	DK
P6SMBJ64-AU	P6SMBJ64C-AU	64	71.1	90.1	1	1	1	114	5.3	NL	DL
P6SMBJ64A-AU	P6SMBJ64CA-AU	64	71.1	81.8	1	1	1	103	5.8	NM	DM
P6SMBJ70-AU	P6SMBJ70C-AU	70	77.8	98.6	1	1	1	125	4.8	NN	DN
P6SMBJ70A-AU	P6SMBJ70CA-AU	70	77.8	89.5	1	1	1	113	5.3	NP	DP
P6SMBJ75-AU	P6SMBJ75C-AU	75	83.3	105.7	1	1	1	134	4.5	NQ	DQ
P6SMBJ75A-AU	P6SMBJ75CA-AU	75	83.3	95.8	1	1	1	121	4.9	NR	DR
P6SMBJ78-AU	P6SMBJ78C-AU	78	86.7	109.8	1	1	1	139	4.3	NS	DS
P6SMBJ78A-AU	P6SMBJ78CA-AU	78	86.7	99.7	1	1	1	126	4.7	NT	DT
P6SMBJ85-AU	P6SMBJ85C-AU	85	94.4	119.2	1	1	1	151	3.9	NU	DU
P6SMBJ85A-AU	P6SMBJ85CA-AU	85	94.4	108.2	1	1	1	137	4.4	NV	DV
P6SMBJ90-AU	P6SMBJ90C-AU	90	100	126.5	1	1	1	160	3.8	NW	DW
P6SMBJ90A-AU	P6SMBJ90CA-AU	90	100	115.5	1	1	1	146	4.1	NX	DX
P6SMBJ100-AU	P6SMBJ100C-AU	100	111	141	1	1	1	179	3.4	NY	DY
P6SMBJ100A-AU	P6SMBJ100CA-AU	100	111	128	1	1	1	162	3.7	NZ	DZ
P6SMBJ110-AU	P6SMBJ110C-AU	110	122	154.5	1	1	1	196	3	PD	ED
P6SMBJ110A-AU	P6SMBJ110CA-AU	110	122	140.5	1	1	1	177	3.4	PE	EE
P6SMBJ120-AU	P6SMBJ120C-AU	120	133	169	1	1	1	214	2.8	PF	EF
P6SMBJ120A-AU	P6SMBJ120CA-AU	120	133	153	1	1	1	193	3.1	PG	EG
P6SMBJ130-AU	P6SMBJ130C-AU	130	144	182.5	1	1	1	231	2.6	PH	EH
P6SMBJ130A-AU	P6SMBJ130CA-AU	130	144	165.5	1	1	1	209	2.9	PK	EK
P6SMBJ150-AU	P6SMBJ150C-AU	150	167	211.5	1	1	1	268	2.2	PL	EL
P6SMBJ150A-AU	P6SMBJ150CA-AU	150	167	192.5	1	1	1	243	2.5	PM	EM
P6SMBJ160-AU	P6SMBJ160C-AU	160	178	226	1	1	1	287	2.1	PN	EN
P6SMBJ160A-AU	P6SMBJ160CA-AU	160	178	205	1	1	1	259	2.3	PP	EP
P6SMBJ170-AU	P6SMBJ170C-AU	170	189	239.5	1	1	1	304	2	PQ	EQ
P6SMBJ170A-AU	P6SMBJ170CA-AU	170	189	217.5	1	1	1	275	2.2	PR	ER
P6SMBJ180-AU	P6SMBJ180C-AU	180	198	253.8	1	1	1	322	1.9	PS	ES
P6SMBJ180A-AU	P6SMBJ180CA-AU	180	198	230.4	1	1	1	292	2.1	PT	ET
P6SMBJ190-AU	P6SMBJ190C-AU	190	209	267.9	1	1	1	340	1.8	PU	EU
P6SMBJ190A-AU	P6SMBJ190CA-AU	190	209	243.2	1	1	1	308	2	PV	EV
P6SMBJ200-AU	P6SMBJ200C-AU	200	220	282	1	1	1	358	1.7	PW	EW
P6SMBJ200A-AU	P6SMBJ200CA-AU	200	220	256	1	1	1	324	1.9	PX	EX
P6SMBJ210-AU	P6SMBJ210C-AU	210	231	296.1	1	1	1	376	1.6	PY	EY
P6SMBJ210A-AU	P6SMBJ210CA-AU	210	231	268.8	1	1	1	340	1.8	PZ	EZ
P6SMBJ220-AU	P6SMBJ220C-AU	220	242	310.2	1	1	1	394	1.5	QD	FD
P6SMBJ220A-AU	P6SMBJ220CA-AU	220	242	281.6	1	1	1	356	1.7	QE	FE

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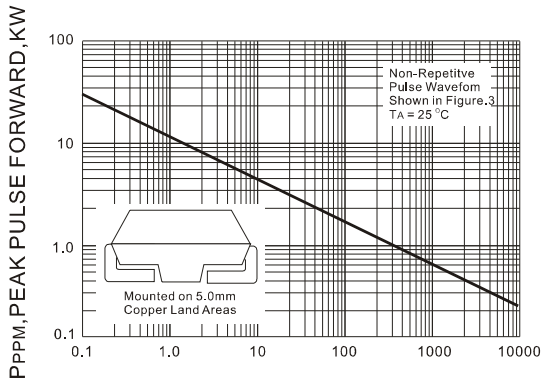

Fig.1 PEAK PULSE POWER RATING CURVE

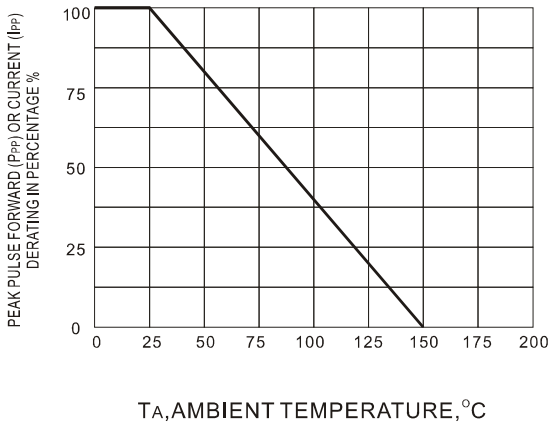

Fig.2 DERATING CURVE

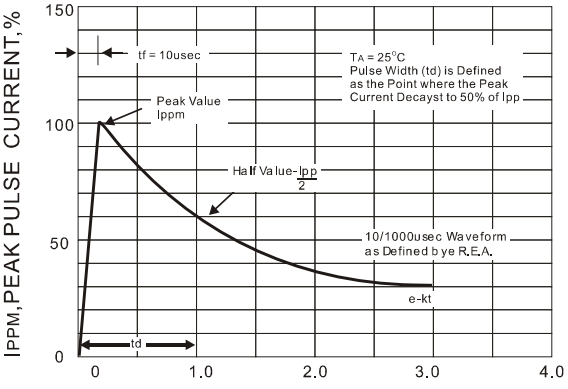

Fig.3 PULSE WAVEFORM

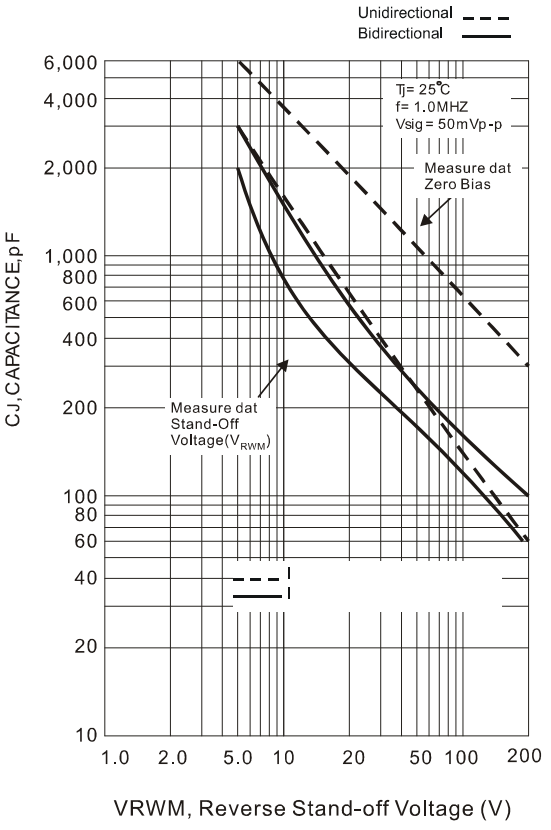

Fig.4 TYPICAL CAPACITANCE

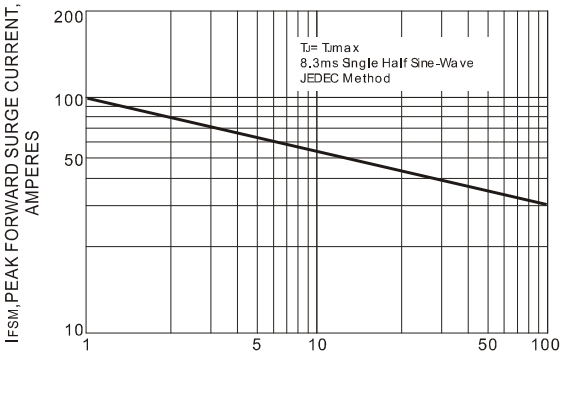

Fig.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

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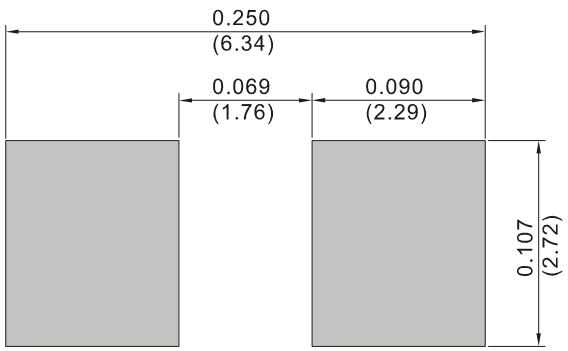
MOUNTING PAD LAYOUT

SMB / DO-214AA Unit : inch(mm)



ORDER INFORMATION

- Packing information

  T/R - 3K per 13" plastic Reel

  T/R - 0.5K per 7" plastic Reel

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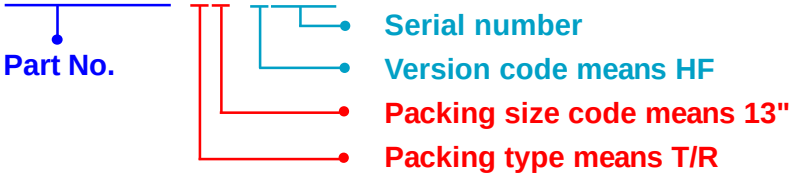
Part No_packing code_Version

P6SMBJ5.0-AU_R1_000A1

P6SMBJ5.0-AU_R2_000A1

For example :

RB500V-40_R2_00001



Packing Code XX				Version Code XXXXX		
Packing type	1st Code	Packing size code	2nd Code	HF or RoHS	1st Code	2nd~5th 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			

P6SMBJ-AU SERIES

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